

The Mining Journal.

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The MINING JOURNAL is Registered at the General Post Office as a Newspaper and for Transmission Abroad.]

No. 2392.—VOL. LI.

LONDON, SATURDAY, JUNE 25, 1881.

[WITH SUPPLEMENT.] PRICE SIXPENCE PER ANNUM, BY POST £1 4s

M. R. JAMES H. CROFTS, STOCK AND SHARE BROKER, AND MINING SHARE DEALER.
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.
ESTABLISHED 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Consols, Bonds (Foreign and Colonial), Railways, Insurance, Assurance, Telegraph, Tramway, Shipping, Canal, Gas, Water, and Dock Shares, and all Miscellaneous Shares.

BUSINESS negotiated in Stocks and Shares not having a general market value.

Every Friday a general and reliable List issued (a copy of which will be forwarded regularly on application), containing closing prices of the week.

MINES INSPECTED.

BANKERS: CITY BANK, LONDON—SOUTH CORNWALL BANK, ST. AUSTELL.

SPECIAL DEALINGS in the following, or part:—
100 Almada, 6s. 3d. 150 Javali, 5s. 10 Roman Gravels, £13.
10 Carnarvon Cop., 19s 6 20 Leadhills, £2 3s. 9d. 20 So. Devon, £1 15s.
25 Devon Con., £10 1s 3 50 Marke Valley, £1 7 6 20 S. Indian Gold, £2 2½.
100 Derwent, £1 10s. 75 North D'Eresby. 10 So. Condarrow, £9 9.
100 East Crebor, 5s. 6d. 200 Nouv. Monde, £1 3s 9 60 South Darren, £1 10s.
30 East Caradon, 19s. 50 N. Penstruthal, £1 10s. 50 So. E. Wynad, £1 15.
20 E. Roman Gray, 17s 6 50 Pandora, 16s. 150 S. Penstruthal, 12s 6d
50 East Van, £1 1½. 100 Polrose, 10s. 50 Tanker. Gt. Con., 12s
100 E. W. Rose, 2s. 6d pm 50 Port Phillip, 8s. 3d. 75 United Van Consols
50 Frontino, £4 7s. 6d. 75 Potosi, 28s. 9d. and Glyn, 7s. 6d.
30 Glenrock, £2 6s. 3d. 150 Prince of Wales. 100 Ditto, pref., 15s. 6d.
50 Glenroy, 8s. 9d. 200 Parys Copper. 20 West Phoenix, £1 ½.
10 Grogwinion, £2 10s. 50 Pestarena, 6s. 9d. 20 West Crebor.
100 Herodsfoot, 12s. 6d. 30 Ruby, £7 7s. 6d. 20 West Kitty, £5 ½.
30 Hington Down, £1 5 30 Richmond, £18.
* * SHARES SOLD FOR FORWARD DELIVERY (ONE, TWO, OR THREE MONTHS) ON DEPOSIT OF TWENTY PER CENT.

BUSINESS IN CAMBRIAN MINE Shares.

RAILWAYS—SPECIAL BUSINESS.

FOREIGN BONDS—SPECIAL BUSINESS.

AMERICAN STOCKS AND SHARES—SPECIAL BUSINESS.
Fortnightly accounts opened on receipt of the usual cover in these and all Stock Exchange Securities.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.
ESTABLISHED 1842.

INDIAN GOLD MINES.—SPECIAL BUSINESS in:—
Oherambadi. Indian Kingdon. South-East Wynad.
Devala Moyar. Indian Phoenix. South Indian Gold.
Devala Central. Indian Trevelyan. Tamboracherry.
Great Southern Mysore. Ooregum. Wynad District.
Indian Glenrock. Rhodes Reef. Wynad Perseverance.
At CLOSE MARKET PRICES, free of commission.
* * Reliable information given on any of the above. A daily price list issued giving closing quotations. SPECIAL BUSINESS in Frontino and Bolivia Potosi, Ruby, Nouveau Monde, and Richmond.
* * SHARES IN THE ABOVE INDIAN OR OTHER GOLD AND SILVER MINES SOLD FOR FORWARD DELIVERY ONE, TWO, OR THREE MONTHS ON DEPOSIT OF TWENTY PER CENT.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

MR. W. H. BUMPUS, STOCK AND SHARE BROKER, AND MINING SHARE DEALER
44, THREADNEEDLE STREET, LONDON, E.C.
ESTABLISHED 1867.

BUSINESS transacted in STOCK EXCHANGE SECURITIES and MISCELLANEOUS SHARES of every description.

RAILWAYS, BANKS, FOREIGN AND COLONIAL BONDS. TRAMWAYS, TELEGRAPHS, and all the LEADING INVESTMENTS. Accounts opened for the Fortnightly Settlement
A List of Investments free on application.

Mr. BUMPUS has SPECIAL BUSINESS in the undermentioned:—
70 Almada, 6s. 3d. 60 East Roman Gravels. 30 New Trumpet £1 ½.
25 Arendal. 50 Frontino, £4 7s. 6d. 50 New Peavor, 30s.
100 Bodidris, 20s. 20 Great Holway, £5 ½. 50 Polrose, 10s., call paid
20 Bedford United, 43s 6 150 Glenroy, 10s. 70 Potosi, 28s. 9d.
25 Carnarvon, 19s. 70 Grey's Brewery, £3 ¾. 25 Panchello, £5 ½.
100 Chontales, 2s. 3d. 5 G-rat Lacey, £1 ¾. 50 Pen-yr-Oscedd, 20s.
25 Copiapo, £2 18s. 9d. 50 Herodsfoot, 11s. 6d. 100 Rhodes Reef, £1.
5 Cape Copper, £4 ¾. 35 Hington Down, 23s 6 20 Ruby, £7 3s. 9d.
50 Callao Bis, 16s. 100 Indian Glenrock, 47s 6 15 Richmond, £17 7.
30 Colorado, £2 3s. 6d. 50 Indian Phoenix, 30s 6 20 Sortridge, 2s. 6d., pm.
100 Devon Friendship, 20s 50 Jerusalem, £4 ¾. 25 So. Devon United, 32s
15 Devon Consols, £10. 75 Kapanga, 5s. 100 So. Indian, £2 16s.
2 Dolcoath. 50 Leadhills, £2 1s. 100 Tamar, 17s. 6d.
40 Derwent, 32s. 100 La Plata, 24s. 3d. 70 Tankerville, 12s. 3d.
50 Devala-Moyar, £1 17s. 60 Lady Ashburton, offer wanted. 50 West Goldolphin, £2.
20 Drakewalls, 15s. 6d. 20 Mellanear, £4 ¾. 100 Wheel Jewell, 14s.
50 Eberhardt, 17s. 6d. 20 Mona, £9 ¾. 10 Wheel Grenville.
2 East Pool. 100 Nouv. Monde, 22s. 6d.
40 East Van, 29s. 100 Nouv. Monde, 22s. 6d.
SPECIAL BUSINESS, at close prices, in the SHARES of all the principal HOME and FOREIGN MINES.

Mr. BUMPUS devotes special attention to these Securities, and is in a position to afford reliable information and advice to intending investors and others.

IMPORTANT TO INVESTORS.—The position of the TIN market is steadily improving, and in all probability there will be a considerable advance in the price of this metal very shortly.

Shares in SOUND TIN MINES should, therefore, be bought at present prices, as many of them are likely to have an early and substantial rise.
The following are particularly recommended:—
WHEEL GRENVILLE. NEW TRUMPET CONSOLS.
WEST GOLDFOLPHIN. NEW PEAVOR.
WEST KITT. WHEAL BOYS.
WHEAL AGAR. NEW KITT.
WEST POLBRENN. GOODEVERE.

WILLIAM HENRY BUMPUS, SWORN BROKER.
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ESTABLISHED 1867.

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BUSINESS TRANSACTED IN EVERY DESCRIPTION OF STOCKS AND SHARES.
The following undertakings are recommended:—
BWICH UNITED, WEST LISBURN, and WHEAL COATES.
The two former are Silver-Lead Mines, in Cardiganshire, and the latter a Tin Mine, in the famed St. Agnes district, and a great rise in prices is expected.
BANKERS: THE CENTRAL BANK OF LONDON (Limited).

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OLD BROAD STREET, LONDON, E.C.
BANKERS: THE ALLIANCE BANK (Limited).

MESSRS. PETER WATSON AND CO.'S
BRITISH AND FOREIGN MONTHLY MINING NEWS
—STOCK AND SHARE INVESTMENT NOTES—MINES,
MINERALS, AND METAL MARKETS—SHARE LIST.
No. 831, VOL. XVI., for JUNE month, will be ready next week, and will be sent to customers on application.

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OLD SHEPHERDS.
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OLD SHEPHERDS, 5s. pd. ditto TRESAVEAN, 5s. pd.
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Special Business at close prices in all British, Colonial, and Foreign Mine Shares.
BANKERS: LONDON AND WESTMINSTER.

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These shares are now most difficult to obtain even at prices offering by buyers, namely, £4 ¾. Orders to purchase may be left for execution, but cannot be immediately effected. The shares are rising on account of the additional mineral rights acquired, and because of the increased productiveness of the mine. I advise purchase now as strongly as I did when the shares were at 20s. each.

NEW KITT.
These shares, like West Kitt's 12 months ago, are absurdly cheap. With such prospects as the company has before it they should be purchased immediately. The quotation is £1 ¼ to £1 ½.

WEST POLBRENN.
Tin has been reached, and the prospects of the property are unquestionably of a high order. I advise the immediate purchase of the shares at present low prices—viz., £1 ¾ to £1 ½. West Polbreenn is almost immediately adjacent to West Kitt, and it is affirmed has the rich West Kitt lode. Sellers of these shares can find a ready market at this office at 28s. each, and buyers will have to pay about 30s. It is reasonable to expect an advance of 400 or 500 per cent.
Information supplied concerning every description of stock, particularly Cornish mines.
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5, BIRCHIN-LANE, LONDON, E.C.
Fortnightly Accounts opened in all Stock Exchange Securities on receipt of the usual cover.
BANKERS: LONDON AND WESTMINSTER, Lothbury.

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Transact business in every description of Stocks and Shares.
ESTABLISHED 1869.—BANKERS: ALLIANCE.

TREVINCE CONSOLS MINE.
We beg to call Special Attention to the Prospectus of this Mine in to-day's Journal. We most strongly recommend the immediate purchase of shares for a great rise in price, or as a bona fide investment.
SPECIAL BUSINESS in Devonport and Tiverton and Grey's Breweries, New Gold Run, Gold Coast, Dingley Dell, and Dieu-Donne shares.

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20 Bedford Unit., 2 13 50 Hington Down, 22s 9 30 Parys Corpora., 17s 6d
50 Brazilian Gold, 19s 6 25 Indian Glen., £2 7s. 6d 50 Rhodes Reef, 20s.
20 Bwlich United. 50 Indian Phoenix, £1 12s. 6d 40 South Devon, £1 11s. 3
20 Carn Camborne. £1 12s. 6d 25 South Indian, £3 1 3
10 Carnarvon, 18s. 80 Indian Trevelyan, £1 12s. 6d 50 Tamar Silver-Lead.
20 Devon Friendship, 20s 100 I. X. L., 4s. 9d. 25 Tankerville, £1 14s.
75 Don Pedro Gold, 12s 50 Kapanga, 6s. 50 Tankerville, 10s.
10 Devon Con., £10. 50 Kit Hill, 18s. 9d. 90 West Crebor, 12s.
20 Devon Gt. Uni., 31s. 50 Lady Ashburton, 21s 6 50 West Phoenix, £1 ½.
50 English-Australian, 16s. 6d. 10 Marke Valley, £1 6s. 50 West Lisburne.
80 Exchequer, 4s. 9d. 10 Mona, £9 ¾. 10 Wheel Basset, £5 ½.
25 Colorado, 23s. 25 Nouv. Monde, £1 3s. 3d. 20 Wheel Crebor, £4.
30 Dev. Friendship, 20s 50 Potosi, £1 11s. 3d. 40 Wheel Jane, 8s.
100 French Date Coffee, (15s. pd.), 10s. 60 Potosi, £1 8s. 9d. 50 Yawitch, 19s.
20 Gunnis, (Clit.), £3 ¾. 100 Prince of Wales, 18s 20 Yorke Peninsula, pref., 17s. 9d.
25 Grogwinion, £2 2s. 6d 100 Pandora, 15s. 3d.
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PROVIDED they are NOT SOLD, WITHDRAWN, or PRICE ADVANCED:—
20 Mona (Lead), £10. 10 Union Trust, £7 10s. 60 Herodsfoot, 10s.
30 East Caradon, 12s. 30 Wheal Jewell, 12s. 6d. 50 Wheal Jane, 7s. 6d.
75 Organos (Gold), 25s. 25 South Darren, £1.
NOTE.—Offers can be made.
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SPECIAL BUSINESS in 50 Wheel Boys at £1, and 40 New Peavor at £1.

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AMERICAN AND BRITISH RAILS, FOREIGN
BONDS, and all STOCKS and SHARES.

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PROVIDED they are NOT SOLD, WITHDRAWN, or PRICE ADVANCED:—
75 Bodidris, 14s. 6d. 65 Gover Consols, offer. 25 Silver Valley, offer.
100 Drakewalls, £1. 50 Kit Hill, £1 ½. 130 Sortridge Cons, 19s.
30 East Caradon, 14s. 3d. 10 Mona, £1 15s. 70 South Darren, £1 12s.
100 E. Craven Moor, 15s. 100 Mounts Bay, offer. 40 So. Devon Uni., 35s.
100 East Devon, offer. 75 Old Shepherd, offer. 100 So. Wheel Crebor, £1.
100 Friendship, £1. 65 Organos Gold, £1 9s. 5 Tankerville, 13s.
450 Great Wh. Polgooth, 170 Parka Mines, £1 2s 6d 100 Tamar Sil-Lead, 19s.
offer wanted. 100 Polgooth Gt. United 50 Walkham United, offer.
100 Great Wheal Polgooth (15s. pd.), 7s. 6d. 60 Indian Glenrock, 120 Ooregum, 18s.
60 Devala Central, £1 5 9 £2 6s. 6d. 40 Quartz Hill 1. at par.
70 Devala-Moyar, £1 ½. 100 Mysore Peefs (15s. pd.), 11s. 3d. 100 Rhodes Reef, 18s. 9d.
100 Howler Hill, 20s. paid), 11s. 3d. 30 South Indian, £2 18 9.
50 Indian Phoenix, £1 14s. 50 Nouv. Monde, 24s 6
NOTE.—Offers can be made where no prices are attached.
FOR SALE, 50 GREAT SOUTHERN MYSORE GOLD, 10s. pd., at 8s. 6d. per share net.

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Do not invest in deep, water-logged, exhausted mines, with large capitals and heavily weighted with purchase money, but come and see the above mines, with rich ores right up to surface, and only a few hours' delightful ride from London.
Send at once for inspection orders and full particulars of above, which can be seen at the company's office, 59, Hope-street, Wrexham, Garrick House, Adelphi, Strand, and at 5 in 8a, Rumbold-court, Liverpool.

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Payable as follows—2s. 6d. per share on application, 2s. 6d. on allotment, and the remainder as required, at intervals of not less than three months, to be paid up on transferring shares.

ALL SHARES PAID UP IN FULL UPON ALLOTMENT WILL BE ALLOWED A DISCOUNT OF FIVE PER CENT.

If no allotment be made the money will be returned.

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GOLDIE LEIGH HILL, Esq., Goldhawk Road, Notting Hill.
CHRISTOPHER ROBINS, Esq., Cromlech Villa, Burt Ash Lane, Lee, Kent.

(With power to add to their number).

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Messrs. JAMES and EDWARDS, Chartered Accountants, 110, Cannon Street, E.C.

CONSULTING ENGINEER.

Capt. T. MITCHELL, Manager of Parys Mines, Amlwch, Anglesea.

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JOHN GASKELL, Esq., 5, Commercial Bank Buildings, Bradford, Yorkshire.

SECRETARY—Mr. WILLIAM BATTYE.

OFFICES,—16, GREAT WINCHESTER STREET, E.C.

PROSPECTUS.

This Company has been formed for the purpose of acquiring and developing a very valuable copper mine near Amlwch, in Anglesea, and in the same highly mineralised district from which the celebrated Mona and Parys Mountain Mines have made such large and profitable returns.

The property is highly mineralised, is held under a renewable lease for 21 years, at a low dead rent of £5 per annum, merging into a royalty of 1-20th for copper and other minerals.

The property is traversed for the whole length by three distinctly defined lodes, which have yielded ore assaying as high as 30 per cent. for copper, but beyond the work of ascertaining their richness, and that of the mine generally, no extraction to any great extent has taken place, more than was necessary to actually prove this fact, and the mine may, therefore, be termed virgin, with the unusual advantage of the existence of highly mineralised copper lodes having been determined by trial workings, proved rich and whole to surface.

The situation of the mine is only about two miles distant from the very prosperous mines of Mona and Parys Mountain, and being in the same mineral zone their great success may be taken as an indisputable indication of the results to be looked for from the Mona Consols.

The close proximity of the property to the shipping port of Amlwch affords important facilities for all carriage requirements to and from the mine at a very low cost.

The working of the Mona and Parys Mountain and other mines in the district have already yielded a profit of several million pounds sterling. The following particulars will serve to show the importance of this celebrated district:—

The present monthly returns of copper ore from the Mona Mine are from 300 to 400 tons, besides a very large quantity of bluestone, ochre, &c.; the Parys Mines from 150 to 200 tons of copper ore, independent of large sales of ochres, all of which could be easily doubled directly an advance takes place in the copper market. There is also the Morfa Du Mine, which yields nearly 150 tons of copper and bluestone per month, and from present indications likely to materially improve.

The Parys Mines alone have yielded from time to time more than seven million pounds sterling, and have made the fortunes of many, as the district is so rich in mineral wealth, and only requires capital to develop it.

The mine has been thoroughly examined and reported upon by mining engineers of high standing and ability, who are unanimous in pronouncing it to be a property of great value, the energetic working of which, under proper management, promises to lead to results no less profitable than has already been realised in the other rich copper mines of the district.

The capital of the company will be applied to opening up the mine with the object of making it permanently remunerative, and, with due regard to both speed and economy, without the aid of expensive machinery.

The great copper mines of Anglesea are already recorded in history, and the mineral wealth produced from them at one time controlled the copper markets of the world, and the Directors of the Mona Consols have every confidence in producing a result quite equal to anything hitherto achieved in this famous district.

The Directors are also in treaty, upon very favourable terms, for a valuable piece of mineral property adjoining, which, if successful, will add greatly to the value of the shares of this company.

The shares of the Mona Mine, with £5 paid, are now saleable at about £12 on the Mining Market.

The vendor will accept for his interest in the property the sum of £2000 in cash and £3000 fully paid-up shares.

The only agreement entered into is dated the 16th day of June, 1881, and is between John Campbell of the one part, and William Battye on behalf of the company of the other part, and may be seen, together with the Memorandum and Articles of Association, at the office of the Solicitors of the company.

Prospectuses, with Plans, Reports, and Form of Application for Shares, may be obtained from the Bankers, Solicitors, Brokers, and at the Offices of the Company.

Particular attention is called to the Reports and Specimens of Ore, which can be seen at the Offices of the Company, where every information may also be obtained.

MINING ENGINEERS' REPORTS.

Parys Mines, Anglesea, May 12, 1881.—In accordance with your request, I beg to hand you the following as my report of the above mine, which is situated on the North Coast of Anglesea, and within a distance of two miles from the celebrated Mona and Parys Mountain Mines, which mines have been renowned for their enormous yield of copper ore from time to time, and the great wealth handed over to the fortunate proprietors. The Porth-y-twech grant embraces several mines, three of which are very strong lodes running through the entire sett, and copper ore can be seen in various places in the out-crop or backs of these lodes. Very little has yet been done on this property to prove their value, but where a small trial or two have been made some good copper has been extracted, and is believed by practical miners that if these lodes were opened in depth they would prove highly productive. The strata in which these lodes are embedded are similar to the strata in the Mona and Parys Mountain Mines, consisting of chert and bands of clay slate, and the indications are most favourable for the production of copper ore. The lode locally known as the Virgin Lode has been wrought on in the adjoining mine (Tygwyn) on the east, and copper ore of good quality has been raised and sold to the Amlwch Smelting Works. The ore was got in close proximity to the boundary of this sett. These lodes also pass through the Porth-y-gaseg property to the west, and they are of a most promising character, and are likely to become valuable in that section of ground when

further developed. I would remark that the advantages offered for working this property are very great. Access to the mine is rendered easy by means of good roads, and being within two miles of the shipping port of Amlwch, and a similar distance from the railway station and town of Amlwch. There is also a small bay within a quarter of a mile from the mine, where the vessels can be loaded and unloaded with the greatest convenience. I have known this property for a considerable time, and have always entertained a very favourable opinion of it, and can therefore strongly recommend the same for a vigorous working, and I may further add that such chances for opening up a valuable mine are seldom to be met with.

Port Sarn, near Amlwch, May 7, 1881.—Having made a careful and thorough inspection of your property, the following is my report thereon. I have been well acquainted with the sett for many years, having been engaged with adjoining mines for a considerable period. There are several masterly lodes traversing the property, and copper can be seen in the backs of them in many places, whilst their formation is everything one can wish for the production of large quantities of mineral. One of the lodes, known as the Virgin lode, is a strong masterly looking lode, which has produced rich copper ore in the adjoining mine, and is whole to surface in your property. The trials already made upon the several lodes, although not a great extent, are sufficient to prove that the property only requires judicious development to attain the same success as the surrounding mines have done. There is one very important feature which must not be lost sight of, and that is the lodes of this district invariably make rich at a shallow depth, and become more compact and richer as depth is attained, so that you will be able to lay open ore ground at a very small outlay, without the expense of extensive machinery, and make returns almost immediately. I have, therefore, every confidence in recommending this mine to investors, feeling satisfied that large profits will be realised.

DAVID DAVIES, Practical Miner and Agent.

THE NEW GREAT WHEEL VOR TIN MINING COMPANY (LIMITED).

CAPITAL £100,000,

DIVIDED INTO 100,000 SHARES OF £1 EACH.

2s. 6d. to be paid on application, and 7s. 6d. on allotment the balance of 10s., if required, to be paid in instalments of not more than 2s. 6d. each, and at intervals of not less than three months. It is, however, fully expected that no further calls will be necessary.

70,000 SHARES ONLY TO BE ALLOTTED.

Allotments will be made pro rata.

OFFICES.

1, CROWN COURT, THREADNEEDLE STREET, E.C.

THE

POLBERRO TIN MINING COMPANY (LIMITED).

Incorporated under the Companies Acts, 1862 to 1880.

Capital £20,000, in 20,000 Shares of £1 each.

Deposit on application 2s. 6d. per share, and on allotment 5s. per share. The remainder in calls of not more than 5s. each, and at intervals of not less than three months.

The deposit will be returned in full if no allotment is made.

DIRECTORS.

DAVID W. BAIN, Esq., Redruth, Cornwall.

Captain WILLIAM BELL McTAGGART, 12, Suffolk Street, Pall Mall, London.

RICHARD TAYLOR, Esq., 6, Queen Street Place, E.C.

ORLANDO WEBB, Esq., Calverton Limes, Stony Stratford.

BANKERS.

The IMPERIAL BANK (Limited), 6, Lothbury, London, E.C.

Messrs. BAIN, FIELD, HITCHINS, and CO., Redruth.

MANAGERS.

Messrs. JOHN TAYLOR and SONS.

OFFICES—6, QUEEN STREET PLACE, LONDON, E.C.

ABRIDGED PROSPECTUS.

This company is formed for the purpose of acquiring the extensive and valuable mineral sets known as the Royal Polberro Consols and Wheel Primrose, situated in the St. Agnes district, in the County of Cornwall, and for working the various mines comprised within the property.

The Polberro Mines were worked uninterruptedly for many years, during which time large returns of tin ore were made, resulting in the division of handsome profits amongst the shareholders.

The reports of Capt. S. Bennetts, manager of the Penhalls Mine, and Capt. John Gilbert, chief agent of the Mellanear Mine, describe fully the numerous and valuable lodes which pass through the property, and have special reference to their value at the eastern end of the sett, formerly known as Wheel Primrose, which adjoins the Penhalls Mine.

From Wheel Primrose considerable returns of tin were made some years ago at a depth of not more than 49 fms. below the adit level; and the Penhalls Mine is now paying regular dividends to the proprietors, and presenting a very favourable appearance in the levels which are approaching Wheel Primrose.

In Old Polberro the character of the numerous lodes, along the sides of which innumerable small branches filled with rich ore are met with, is peculiar to the district, and renders them especially suited to the system of tribute, in which manner it is intended to work this mine extensively, with a view to exploring the ground economically, and obtaining from it immediate returns of tin.

It is a well-established fact that the lodes of this district have proved most productive at points where they have formed junctions with one another; and this feature is especially important when, as will be observed from Capt. Gilbert's report, the Pink lode, which is at present being worked with so much success in the Penhalls Mine, will intersect the Polberro great lode a little below the present bottom of the Primrose Mine.

The only agreement entered into is dated the 7th day of June, 1881, and is made between Harriett Taylor, of the one part, and William Gunter Williams, as a trustee for the company, of the other part.

The draft of the leases and the above-named agreement and the Memorandum and Articles of Association can be seen at the offices of the company.

Applications for shares, together with the deposit of 2s. 6d. per share, must be left with the company's bankers, the Imperial Bank (Limited), 6, Lothbury, London, E.C., or Messrs. Bain, Field, Hitchins, and Co., Redruth, or with Messrs. John Taylor and Sons, 6, Queen-street-place, London, E.C.

Prospectuses and the above-named reports, with forms of application for shares, may be obtained at the offices of the company or of either of the bankers.

MR. P. S. HAMILTON (late Chief Commissioner of Mines for the Province of Nova Scotia), PRACTICAL GEOLOGIST, MINING AGENT, and MINING ENGINEER, HALIFAX, NOVA SCOTIA.

PURCHASES and SALES of MINING PROPERTY effected, with careful regard to the interests of clients.

"SOW AND REAP," published this day, post free 1½d. stamps. This reliable monthly contains original information for investors, and special recommendations. The motto is HOW TO MAKE MONEY AND AVOID LOSS. The whole series should be read to form an estimate of its value. Special information on mines.

Published by THOMPSON and SON, Plymouth.

VIRGIN COAL FIELD

ENTIRE—ISOLATED—DRY.

Lease can be arranged on very easy terms.

Full details, and all particulars, from

Messrs. H. STOPES & CO.,

No. 24a, Southwark Street, Borough.

It is estimated that the dressing machinery will be completed in three months, when sales of ore can at once commence for dividends; but to cover the chance of any unexpected delay, the vendors guarantee 7½ per cent. interest for the first year, and will deposit shares with the directors to cover the amount.

WHEEL SILVER AND LANTEGLOS MINES (LIMITED).

Incorporated under the Companies Acts, 1862 to 1880.

* * The liability of shareholders is strictly limited to £1 per share FIRST ISSUE OF 10,000 SHARES.

Capital £30,000, in 30,000 Shares of £1 each.

Payments—5s. per share on application and 5s. on allotment. If the remaining 10s. is required calls of 5s. per share will be made, but not less than six months apart.

Where no allotment is made, the application money will be returned in full.

N.B.—Shares may be paid up in full on allotment if desired. The advantage in doing this is that the dividends will be paid on the amount per share paid, and the fully paid shares will, therefore, receive double to those only 10s. paid.

The vendors sell the properties to the company for £1000 in cash, and 9000 fully paid shares, and agree to pay all expenses up to allotment. There are, therefore, no promotion fees to be paid. Several thousand pounds have been spent in laying open the mines and proving the lodes.

DIRECTORS.

J. BUIST EVANS, Esq., Egerton Lodge, S.W.

Major BEAUMONT, Conduit Street, W.

R. H. ARMIT, Esq., Clifford's Inn, W.C.

* F. CAVE MAITLAND, Esq., M.E., Trehanick, Camelford—

Resident Director.

* Will join the Board on allotment.

BANKERS.

STANDARD BANK OF LONDON (Limited), 29, Lombard Street, E.C.

SOLICITORS—Messrs. CARRITT and SON, 39, Fenchurch Street, E.C.

BROKERS.

Messrs. MILLS, SCOTT, and CO., Telegraph Street, London, E.C.

SECRETARY—Mr. C. F. WINTER.

OFFICES.

ST. STEPHEN'S CHAMBERS, TELEGRAPH STREET, LONDON, E.C.

The two mines adjoin each other, and are very extensive, and it is intended to re-sell Lanteglos, the purchase money from which will nearly, if not quite, recoup the shareholders the original price of their shares.

A channel of ore lies within a few feet of surface, which assays 81½ per cent. lead, and 36½ ozs. of silver per ton, so that heavy dividends are expected to be paid this year.

Prospectuses, reports and full particulars on application to the Bankers, Solicitors, Brokers, or Secretary of the company.

THE "JAMIN" PATENT ELECTRIC LIGHT

COMPAGNIE GENERALE D'ECLAIRAGE ELECTRIQUE.

Capital, 8,000,000 Francs.

Proprietors of the Gramme Patent Machine for Alternate Current

J. A. BERLY, C.E., A.S.T.E., &c.,

Engineer, and Sole Agent for Great Britain and the Colonies
16, NEW BRIDGE STREET, LONDON.

ALEXANDER SMITH, M. Inst. C.E., CONSULTING ENGINEER and VALUER of IRONWORKS, MINING, RAILWAY, ENGINEERING, and other PROPERTY, PLANT, and MACHINERY, 1, PRIORY STREET, DUDLEY.

Mr. SMITH has been retained for nearly 20 years by some of the most prominent firms, and has conducted many of the largest valuations that have taken place in the kingdom.

Valuations for Stock Taking or any other purpose upon very reasonable terms.

STOCKS AND SHARES.

FOREIGN BONDS, RAILWAYS, TRAMWAYS, GAS, INSURANCE IRON, COAL, and MISCELLANEOUS SHARES.

Prices, with reliable information, forwarded on application to—

MESSRS. H. R. LEWIS and CO.

BARTHOLOMEW HOUSE,

LONDON, E.C.

SPECIAL INFORMATION in the SELECTION of MINING SECURITIES. The "MONTHLY INVESTMENT LIST" and the "WEEKLY PRICE LIST" may be had on application.

MR. CHARLES WILLIAMS, MINING ENGINEER AND SURVEYOR, DOLE HOUSE, TALIESIN, R.S.O., is at all times in POSITION to FURNISH CAPITALISTS with RELIABLE INFORMATION in the SELECTION of MINING PROPERTIES in CARDIGANSHIRE and NORTH WALES. Investors will do well to consult the above before laying out money in the districts named.

MESSRS. J. TAYLOR AND CO., MINING ENGINEERS AND INSPECTORS,

88, LONDON WALL, LONDON, E.C.,

Have Agents in the various Mining Districts of Great Britain, the Continent, Australia, and the United States of America.

Inspections undertaken, either personally or by our Agents, and Reports or Advice as to Working given.

MR W TREGELLAS, 40, BISHOPSGATE STREET WITHIN, E.C.

Deals in all descriptions of STOCKS and SHARES at close market prices, and is always in a position to do business in SANTA BARBARA, PITANGUI, and BRAZILIAN GOLD MINES.

CAPT. JOHN PHILLIPS, of the Oola Hills Lead Mines, Co. Limerick, Ireland, has SPECIAL MINING BUSINESS in CORNWALL and DEVONSHIRE for the next three weeks. He begs to offer his services to Private Gentlemen or Mining Companies to INSPECT and REPORT on any MINE, MINES, or MINERAL PROPERTIES, and he will faithfully, honestly, and fearlessly execute any orders that may be entrusted with him.

All orders to be addressed to JOHN PHILLIPS, Post Office, St. Newlyn East, via Grampound Road, Cornwall; or to Mining Offices, No. 8, Frankfort-street, Plymouth, Devon.

Satisfactory references can be given, if required.

CALIFORNIAN AND EUROPEAN AGENCY—

509, MONTGOMERY STREET, SAN FRANCISCO, CAL.

E. J. JACKSON, Manager

APPLICATION LIST CLOSES THIS DAY.

SPECIAL FEATURES OF THE BRATSBERG COPPER MINES.

1. The properties are acquired as a going and profitable concern, the operations of the last three years, with only 30 miners and manual labour, having yielded £10,000 profit.
2. The adoption of Boring Machinery and the employment of a larger number of men will at once greatly increase profits. There is house accommodation at the mines for 300 men.
3. The mines are proved to be of great value, and a large quantity of valuable ore ground is available for immediate returns. In only one part of one of the numerous rich lodes the ore is estimated at £220,000. The ore now being raised is the finest ever yet found in the mines. Specimens can be seen at the London office.
4. The property being FREEHOLD there is no royalty to pay, a very great saving compared with other mines.
5. The quality of the copper ore is very rich; the prices realised averaging £12 to £14 per ton, against only an average of £3 7s. 6d. for English ores.
6. Labour is cheap and abundant, and miners do more work per day than in England.
7. The dressing cost is about 8s. 6d. per ton, and the whole cost of the ore from the mines to Swansea is only £2 5s. per ton.
8. There is a fine plant of machinery erected, capable of returning greatly increased quantities of ore.
9. A large number of the shares is already applied for.
10. If no allotment is made the deposit will be returned in full.

THE BRATSBERG COPPER COMPANY, LIMITED.

Incorporated under the Companies Acts, with Limited Liability.

CAPITAL £60,000, IN 30,000 SHARES OF £2 EACH.

Payable with Application, 5s. per Share; payable on Allotment, 5s. per Share; payable on 1st August, 1881, 10s. per Share; payable on 1st October, 1881, 10s. per Share; payable on 1st December, 1881, 10s. per Share. Total, £2 per Share.

HENRY CURREN BRIGGS, Esq., Leeds.

H. W. LAMB, Esq., Director of the Arendal Mining and Smelting and the Devon Friendship Mining Companies.

JAMES MACFARLANE, Esq., Director of the Devon Friendship and Wheal Crebor Mining Companies.

J. H. MURCHISON, Esq., F.R.G.S., Chairman of the Devon Friendship Mining Company.

SAMUEL YORK, Esq., Director of the Arendal Mining and Smelting and the Devon Friendship Mining Companies.

BANKERS—IMPERIAL BANK, LIMITED, London.

BROKERS—Messrs. JOHN GIBBS, HART, AND LANE, 51, Threadneedle Street, and Stock Exchange, E.C.

SOLICITOR—ALEX. KERLY, Esq., 14, Great Winchester Street, E.C.

MANAGERS—Captain JOHN DAW AND SONS.

SECRETARY AND OFFICES—Mr. H. C. MURCHISON, 8, Austin Friars, London.

ABRIDGED PROSPECTUS.

This company is formed to purchase, as a going concern, the extensive and valuable Bratsberg Copper Mines, in Norway.

For the last three years the mines have been in the hands of one lessee, who, with only 30 miners, has returned in that time about 2200 tons of rich copper ore, which have realised nearly £30,000, about one-third of which has been profit, while for 1881 a much larger quantity of ore than last year will be returned. There are now on the dressing-floors 500 tons of 21 to 22 per cent. copper ore.

English mines are subject to royalties, more or less heavy, whereas there will be no such impost on Bratsberg ores, as the property will be held as freehold.

By adopting boring machinery at least three times the quantity of work will be done in the same time as by manual labour, and probably at less expense.

The reports show that on Hoffnung lode alone the ore ground is estimated at only one part of the lode at £222,774.

Below No. 3 adit a shaft has been sunk on a rich course of ore for 30 fms., and there are estimated 110 fathoms in length of very profitable lode in this part of the mine.

At Naesmark, along the back and bottom of the adit lode will produce paying quantities of ore, the copper ore sold having varied from 30 to 40 per cent. of copper, and 60 to 80 oz. of silver per ton. Some of this ore fetched above £45 per ton.

At Mossnapp there is a fine lode containing rich argentiferous blue and yellow copper ore, worth 30¢ per fathom. From a small hole on this lode over 500 tons of ore were raised, giving above 30 per cent. for copper and more than 30 oz. of silver per ton.

At Guldnaes there is a lode 100 ft. wide having rich blue and yellow copper ore disseminated throughout its whole width.

The back and bottom of the level on Johannes lode will leave a good profit.

Capt. C. Thomas reports:—"At every place opened upon good deposits of copper have been found; but trial levels and cross-outs have never been extended as they should have been. You should develop the property, and I have no doubt that if this is done it will pay well."

The success of the mines first taken in hand, and the payment of good dividends from them, will probably greatly increase the value of the others, and enable them to be dealt with at considerable advantage for this company and its shareholders.

Captain Daw, who knows these properties better than anyone, confidently states that there need almost be no limit to the quantity of rich ore returned, yielding very large profits, according to the number of men and the machinery employed.

The following extracts from his more recent letters speak for themselves:—

12th April: "I am pleased to inform you these mines are looking splendid. We are raising a large quantity of rich ore every day, better I never saw." 27th April: "These mines never looked so well since they were called mines as at the present time. The deeper we go the richer the lode is." 4th May: "These mines will pay good dividends." 18th May: "Box of splendid ore is sent as you requested. I never saw finer specimens in my life." 30th May: "Our mines are looking very well. We shall be sending a much larger quantity of ore to England this year than last. Many tons of our first cargo will produce 30; the remainder from 21 to 22 per cent. for copper—splendid ore."

Looking at the mines being already so rich and productive, it is fair to assume

that with the more rapid development by boring machinery, and the employment of 300 miners, there being accommodation for even a larger number, the profits will be at least ten times as much as hitherto, or £33,000 per annum, equal to 55 per cent. on the whole capital of the company.

The terms fixed for the transfer of all these freehold properties, together with the machinery, plant, buildings, &c., thereon, is £22,500 in cash, and £750 fully paid-up shares, so that the company will have a working capital of about £20,000 which is considerably above the sum estimated to be required for the mines to be now worked.

The only agreements entered into are the following:—

4th February, 1881, between Robert Butterworth of the one part, and John Henry Murchison of the other part. 21st March, 1881, between John Henry Murchison of the one part, and Edward Graham Fisher, as trustee for the company, of the other part.

Copies of the above agreements and of the Memorandum and Articles of Association can be seen at the offices of the solicitor to the company.

It will be observed that Mr. J. H. Murchison, the vendor of the property to the company, is one of the directors. The company will thus have the valuable aid which his long experience in the management of mining properties will enable him to afford.

The number of shares already applied for being large, immediate application for the remainder with remittance of deposit at the rate of 5s. per share should be made and sent to the company's bankers.

Full prospectuses, with reports and forms of application, can be obtained at the office of the company or from the brokers.

THE BRATSBERG COPPER COMPANY, LIMITED.

The APPLICATION LIST for SHARES in this Company will be CLOSED THIS DAY.

8, Austin Friars, 25th June, 1881.

By order,

H. C. MURCHISON, Secretary.

Note.—Applications received by MONDAY Morning's Post will be included in the List.

PROVINCIAL STOCK AND SHARE MARKETS.

CORNISH MINE SHARE MARKET.—Mr. S. J. DAVEY, mine share-dealer, Redruth (June 23), writes:—Our market has been dull during the week, with but very little business doing. Prices of Cook's Kitchen, East Pool, South Frances, and West Kittys have improved; but Phoenix United, South Crofty, Pedn-an-drea, and West Frances have declined. To-day transactions are chiefly confined to Carn Brea, Dolcoath, and East Pool. Following are quotations:—Blue Hills, 3 to 3½; Carn Brea, 24 to 24½; Cook's Kitchen, 16½ to 16¾; Dolcoath, 55½ to 56; East Pool, 37½ to 37¾; Killfretth, ¾ to ½; Mellanear, 4½ to 5; New Cook's Kitchen, 6 to 6½; New Kitty, 1½ to 1½; Penhall, 1½ to 2; Phoenix, 4½ to 5; Pedn-an-drea, 3½ to 4; South Condurow, 9½ to 10; South Crofty, 9½ to 9¾; South Frances, 15½ to 16; Tincroft, 17½ to 17¾; West Basset, 16 to 16½; West Frances, 12 to 13; West Kitty, 5 to 5½; West Peever, 15½ to 15¾; West Poldice, 4½ to 5½; West Seton, 21 to 22; Wheal Agar, 14½ to 14¾; Wheal Basset, 5 to 5½; Wheal Grenville, 8 to 8½; Wheal Jane, 5½ to 5¾; Wheal Peever, 18½ to 19; Wheal Kitty (St. Agnes), 2 to 2½; Wheal Uny, 2½ to 2¾; Wheal Uny, 2½ to 2¾.

—Mr. J. H. REYNOLDS, stock and share broker, Redruth (June 23), writes:—The share market has been rather inanimate during the week, but prices generally are pretty well maintained. Cook's Kitchen has advanced to 17½, closing rather sellers at this price. Subjoined are closing prices:—Blue Hills, 2½ to 3; Carn Brea, 24½ to 24¾; Cook's Kitchen, 16½ to 17; Dolcoath, 55½ to 56; East Pool, 37½ to 38; Gunnislake (Clitters), 3½ to 4; Levant, 1½ to 1½; Marke Valley, 1½ to 1½; Mellanear, 4½ to 5; New Cook's Kitchen, 6½ to 7; North Herodsfoot, 10s. to 12s. 6d.; Pedn-an-drea, 3½ to 4; Phoenix, 4½ to 5; Penhall, 1½ to 2; South Caradon, 60 to 65; South Condurow, 9½ to 10; South Crofty, 9½ to 10; South Frances, 15½ to 15¾; Tincroft, 17½ to 18; West Basset, 16 to 16½; West Seton, 20 to 21; West Kitty, 4½ to 5; Wheal Agar, 14½ to 14¾; Wheal Basset, 5½ to 5¾; Wheal Boys, 2½ to 2¾; Wheal Grenville, 8 to 8½; Wheal Jane, 10s. to 15s.; Wheal Jewell, 10s. to 15s.; Wheal Kitty, 1½ to 2; Wheal Peever, 18½ to 19; Wheal Prussia, 1½ to 2; Wheal Uny, 2½ to 2¾.

—Mr. M. W. BAWDEN, Liskeard (June 23), writes:—The mining market has been steady with but little change or variation in prices during the past week; and most shares are firm in leading mines although they have not advanced in a proportionate amount to the present and prospective price of tin. At Herodsfoot Mine meeting yesterday a call of 2s. per share was made. At West Phoenix Mine meeting held on the mine on Tuesday the accounts showed a debit balance of 26922. 15s. 2d.; a call of 6s. per share was made. Subjoined are the closing quotations:—Bedford United, 2 to 2½; Carn Brea, 24½ to 25; Cook's Kitchen, 16 to 16½; Dolcoath, 55½ to 56; Devon Consols, 10 to 10½; Devon Great United, 1½ to 1½; Drake Walls, 1 to 1½; East Caradon, ¾ to 1; East Crebor, ¾ to ¾; East Herodsfoot, 1½ to 1½; East Pool, 37 to 37½; Gawton United, 1 to 1½; Glasgow Caradon, ¾ to 1; Gunnislake (Clitters), 3½ to 3¾; Herodsfoot, ¾ to ¾; call paid; Hingston Down, 1½ to 1½; Kit Hill, 1 to 1½; Marke Valley, 1½ to 1½; New West Caradon, ¾ to ¾; call paid; North Herodsfoot, ¾ to ¾; Old Gunnislake, ¾ to ¾; Phoenix United, 5½ to 5¾; Prince of Wales, ¾ to ¾; South Caradon, 60 to 60½; South Condurow, 9½ to 10; South Crebor, ¾ to ¾; South Crofty, 10½ to 10½; South Devon United, 2 to 2½; South Frances, 15½ to 15¾; Tincroft, 18 to 18½; West Basset, 16 to 16½; West

Caradon, ¾ to ¾, call paid; West Frances, 13 to 13½; West Mary Ann, ¾ to 1; West Peever, 15 to 15½; West Phoenix, 1½ to 1½, call paid; West Crebor, ¾ to ¾; Wheal Agar, 14 to 14½; Wheal Crebor, 3½ to 3¾; West Tolgus, 17½ to 18; Wheal Grenville, 8½ to 8¾; Wheal Hony and Treklawny, 2 to 2½; Wheal Jane, 5½ to 5¾; Wheal Peever, 18 to 18½; Wheal Uny, 2½ to 3.

—Mr. JOHN CARTER, mine share-dealer, Camborne (June 23), writes:—There is very little change to notice in our market during the week, and only a limited business has been transacted. West Kitty shares are in better demand at 5½. South Frances improved to 15½, 17s. 6d., but have since declined to 15½ sellers. To-day's prices herewith:—Blue Hills, 2½ to 3½; Carn Brea, 24 to 24½; Cook's Kitchen, 16 to 16½; Dolcoath, 55½ to 56½; East Caradon, ¾ to ¾; East Pool, 37½ to 37¾; Mellanear, 4½ to 5; New Cook's Kitchen, 6 to 6½; North Bury, 1½ to 1½; Penhall, 1½ to 1½; Phoenix, 4½ to 5; Pedn-an-drea, 3½ to 4; Santa Gertrude, 17½ to 17¾; South Condurow, 9½ to 9¾; South Caradon, 60 to 65; South Crofty, 9½ to 9¾; South Frances, 15½ to 15¾; Tincroft, 17½ to 17¾; West Basset, 15½ to 16; West Frances, 12 to 12½; West Peever, 15½ to 16; West Poldice, 4½ to 5; West Seton, 20 to 21; Wheal Agar, 14½ to 14¾; Wheal Basset, 5 to 5½; Wheal Grenville, 8 to 8½; Wheal Jane, 5s. to 7s. 6d.; Wheal Peever, 18 to 18½; Wheal Kitty, 2 to 2½; Wheal Uny, 2½ to 2¾; West Kitty, 5 to 5½; East Blue Hills, 1½ to 2.

MANCHESTER.—Messrs. JOSEPH R. and W. P. BAINES, sharebrokers, Queen's Chambers, Market-street (June 23), write:—A moderate amount of business is reported for the past week, and it has been pretty evenly distributed amongst all the classes of securities reported on. Taken all round the balance of variations in prices is slightly in favour of upward movements, yet there is such a respectable minority of adverse changes that we are hardly justified in noting a decided improvement. As the season wears on, with weather still favourable, hopes are entertained and expressed that a good harvest may be assured, and if these hopes are realised those who look for a general improvement in trade and consequent enhancement in values of trading companies' securities will, we think, not be disappointed.

BANKS have changed hands more than during some weeks lately past, and figures obtained have all been either full or slightly advanced. There are only two instances of decline—1 in National Provincial new, and ½ in Bank of Bolton, whilst Manchester and Salford are ½, Manchester and Liverpool District ½, Bank of Liverpool ½, Manchester and County ¼, Consolidated ¼, and Liverpool Commercial ½. The near approach of the half-yearly dividend is doubtless the cause of strength on many of these.

INSURANCE.—The business done is spread over many concerns, there being very few in which anything but solitary transactions have been marked, but the aggregate number of dealings is in excess of the number for some weeks past. Figures generally are well maintained. There are two or three declines (but only one of any consequence), whilst a fair number of better figures are marked. Higher—Royal (Liverpool) ¾, Thames and Mersey Marine Insurance ¾, Maritime ¾, Ocean Marine ¾, British Re-Insurance ¼, Equitable Fire ¼, and Positive Life 9d. Lower—United Fire Re-Insurance 1, Liverpool and London and Globe ½, and Lancashire and Staffordshire Fire ¾. **COAL, IRON, &c. AND MIXING.**—Very little change is noticeable in the tone of this market, especially as regards actual business done, though it is just the turn better in this respect. Quotations are unchanged in an irregular manner, the only variations at all noteworthy being a jump in Tharls Sulphur and Copper

of 3½, and a fall of 1 in Llynvi Tondy Coal, &c. Bbbw stand unchanged compared with last week's figures, though they have fluctuated a little during the week. Indian gold mines shares where changed are easier, with no business reported therein. Higher—Tharls ¾, Cammells ¾, Parkgate ¾, Bolckow (12½ paid), Great Laxey Lead ¾, Palmer's Shipbuilding (A) ¾, and Teeside Iron and Engine ¾. Lower—Llynvi Tondy 1, Sheepbridge Coal, &c., ¾, United States Rolling Stock ¾, Indian Glenrock ¾, John Brown ¾, South Indian Gold ¾, and Canadian Copper, &c., 1s.

COTTON SPINNING AND MANUFACTURING.—The approach of dividends and balance-sheets causes a strong feeling to rule with regard to those companies which are generally supposed to have done well during the quarter, whilst as regards others whilst holders are not prepared to accept much, if any, reduction in prices a disposition seems prevalent to await results being announced before operating much at present figures. As a consequence few lots have changed hand, but figures are fairly upheld.

TELEGRAPHIC.—Business here has been confined to Western and Brazilian, which have responded to the demand, and quote better, with the exception of these and Easterns all the movements are adverse. Western and Brazilian are ½, and Eastern ½ higher, but Anglo Ordinary and Deferred are both 1½; ditto Preferred, 1; Direct United States Cable, ¾; Globe Pref., ¾; and West India and Panama, ¾ lower. **CANALS.** We have again to report without business or movement of any kind. **CORPORATION STOCKS, &c.** have not produced much business, but where quotations are altered figures are better, Blackburn Stock being ¾, Bradford Dabentures ¾, and Manchester Corporation Stock ¾ better. **MISCELLANEOUS** exhibit a few dealings, and quotations do not show change of moment save a fall of ½ on Manchester Carriage, A, and ½ on ditto B.

RAILWAYS.—In the market for English rails there is no general movement worthy of remark. A few instances are prominent of individual changes—Midlands and Lancashire and Yorkshire, which exhibit declines of 1½ each, and Great Eastern 1, while the heavy backwordings payable on Sheffield Ordinary stock and their improved traffic returns this week have contributed to an advance on ordinary of 1½, and on A's of ¾. Brighton A's have again fluctuated considerably, having been up at 136½, and down to 135. The Canadian market dropped gradually until the announcement that the grain freights would be reduced from 30 to 20 cents, when most descriptions were demoralised through the heavy selling; the tone, however, strengthening to-day, and prices show a recovery in Grand Trunk issues of ¾ to 2, and in Great Westerns of ¾. A similar weakness was prevalent in Americans, but they establish a firmer tendency to to-day's close, particularly Philadelphia and Readings on the handsome returns for May's working.

NEWCASTLE-ON-TYNE STOCK EXCHANGE.—Messrs. SPENCE and IRWIN, stock and share brokers, Grey-street (June 23), write:—Our market has been fairly active during the week, and prices generally are higher. Bede Metal and Chemical Co.'s shares still in good demand, 1½ dis. being now bid without tempting sellers. A further improvement has taken place in Blockow Vaughan & Co.'s shares, the fully-paid shares being 27½ to 28, and 12½ paid, 4½ to 4¾ prem. We understand they are very busy at their Easton Steelworks. They recently secured an order for 6000 tons of steel rails for the Dutch Government. The Bessemer converters are working admirably, but it is the intention of the company to use steam, in preference to hydraulic power, in working two new large converters. Consett iron shares

ave gone up considerably since our last, being now 18 to 18½ prem. Conselt Spanish Ores: 32s. is now bid for these shares. We think a seller could be found at 32s. 6d. John Abbot & Co.'s shares are offered at 29½ dis., whilst 35 dis. is bid. Palmer's Shipbuilding and Iron Co.'s A shares have been done this week at 28½, which price is still bid. The B shares are wanted at 6½ dis., but sellers hold out for 6 dis. Skerne Iron shares have been done at 3, at which they are still offered. Tees Side Iron and Engine Works ordinary shares are 11½ to 2, and preference ½ dis. to par. Crookburn Mine shares are offered at ¼ prem., whilst par is best bid. Dubby Syke Mine shares are wanted at 5s., but sellers hold out for 6s. The company are raising fresh capital, with a view to further developing the mine. Green Hurth Mine shares are in strong demand at 8, whilst only a small lot are offered at 9. North Green Hurth Mine: 1½ shares are wanted at 1¼, and 2s. paid shares at 12s. 6d. prem., whilst there are sellers at 1¼ and 15s. prem. respectively. Teesside Mine ordinary shares are offered at 7s. and preference at 10s., without tempting buyers.

SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, sharebroker and ironbroker (June 23), writes:—During the past week markets have been irregular. Although trade is quiet at present, it is pretty certain the favourable harvests, of which we have now excellent prospects, will make business much brisker this autumn, and, therefore, the tendency of prices is upwards.

In shares of coal, iron, and steel companies the principal movements for the week comprise advances of 10s. per share on Bolekow, Vaughan; 7s. 6d. on ditto (12½ paid); 5s. on Steel Company of Scotland; 1s. 6d. on Glasgow Port Washington; and 1s. on Monklands; but Marbellas are 8s. 9d. lower and Omoa and Cleland 1s. In the Scotch pig-iron market the price of warrants has advanced from 46s. 6d. to 47s. 5d., owing to heavier shipments and furnaces being blown out at Clyde. Benhar remains about 5s. to 10s. Altamir are at 37s. 6d.; Bolekow, Vaughan, 27½; Bilson and Crump Meadow, 52s. 6d.; Cardiff and Swansea Coal, 30s. to 40s.; Chapel House Colliery, 10s. to 12s. 6d.; Chatterley Iron, 6 to 7; Chillingham Iron, 45s. to 55s.; Clyde Coal 72s. 6d. to 75s.; Elbow Vale, 8½ to 8¾; Henry Briggs (A), 10 to 11; Llynvi and Tondri, 8½ to 9; ditto (pref.), 10s. dis.; Lofthouse Colliery, 52s. 6d.; Marbella Iron Ore, 7½; Monkland Iron and Coal, 12s. to 13s.; ditto (pref.), 19s. to 22s.; New Sharlston Colliery (pref.), 70s. to 90s.; Omoa and Cleland, 24s.; Onllin and Dulais Colliery, 28s.; Scottish Australian Mining (new), 17s. 6d. to 22s. 6d.; and Steel Company of Scotland, 10½ to 11.

In shares of foreign copper and lead concerns there has been a good amount of business doing, especially in Tharsis, which have advanced 1½ to 3s. 9d. on the fully-paid shares; but the new shares are as much as 4½ to 6d. higher on the proposed re-arrangement of the capital. On the other, Panulicillo, Canadian, and Huntington are all slightly lower. Tharsis shares opened at 4½, and have since improved to 4¾, but are now a little easier. Canadian are at 37s. 6d. to 38s.; Huntington, 49s. to 51s.; Linars, 5½ to 6; Norway Copper, 5s. to 7s. 6d.; Pierrefitte (pref.), 18s. to 20; Rio Tinto, 20 ¾ to 20½; Yorke Peninsula, 4s. to 6s.; and ditto pref., 15s. to 17s. 6d.

In shares of home mines business continues quiet. Glasgow Caradon have been done 1s. higher, at 21s. Tin shares are generally better. The meeting of East Roman Gravel is to be on July 6. Blaen Caelu are at 20s.; Cwm Pryi, 2s. 6d. to 5s.; Drakewalls, 12s. 6d. to 17s. 6d.; East Chiverton, 20s. to 30s.; East Wheal Rose, 5s. to 7s. 6d. prem.; East Long Rake, 25s. to 30s.; Fortescue, 10s. to 15s.; Great Wheal Polgoth, 12s. 6d. to 17s. 6d.; Great Polgoth United, 15s. to 20s.; Gover Consols, 15s. to 20s.; Gwydyr, 10s.; Gawton, 17s. 6d. to 20s.; Herodfoot, 10s. to 12s. 6d.; Indian Queens, 25s. to 35s.; Lady Ashburton, 18s.; Leadhills, 40s. to 50s.; Mount's Bay Consols, 3s. 9d. dis.; North Molton, 6s. 6d.; New Peavor, 40s.; New Penrose, 11s. 3d.; North Hendre, 4 to 5; Old Shepherds, 2s. 6d. dis. to par; Pateley Bridge, 5s.; Parys Copper, 15s. to 17s. 6d.; Pont-y-Mwyn, 15s.; Pandora, 15s. to 20s.; Penhale and Barton, 21s. 3d.; Silver Valley, 4s. 6d.; South D'Esrey, 8s. 9d.; Tresavean, 10s.; Tamar, 17s. 6d. to 18s. 6d.; Tankerville, 10s. to 12s. 6d.; Tin Hills, 22s. 6d.; United Shepherds Wheal Rose, 6s. 9d.; Van Consols and Glyn (ordinary), 6s. to 8s.; ditto (pref.), 14s. to 16s.; Walkham United, 3s. prem.; Wheal Fortune, 60s.; and Wheal Grenville, 7½ to 8.

In shares of gold and silver mines there has been less business doing, and Richmonds have been done at 17 to 17½. An excellent report has been received from the Rio Grande do Sul, and 13 cwt. of ore sent home to the mines yielded an average of 64 ozs. to the ton of 20 cwt. Akamko are about par; Australasian, 5s.; Cedar Creek, 2s. 6d. to 3s. 9d.; Cedar Gold, 2s. 6d. prem.; Central Wynaad, 1s. 3d. dis. to 1s. 3d. prem.; Flagstaff, 7s. 6d. to 10s.; Great Southern of Mysore, 17s. 6d. to 18s. 6d.; Gold Association of Canada, 17s.; Indian Trevelyan, 27s. 6d. to 30s.; Indian Mammoth, 5s. dis. to par; Indian Glenrock, 45s. to 47s. 6d.; Indian Phoenix, 27s. 6d. to 30s.; Indian Kingston, par to 2s. 6d. prem.; Javali, 3s. to 5s.; Kapanga, 5s. to 7s. 6d.; Mysore Reefs, par; Madras Gold, 2s. 6d. dis.; New Gold Run, 4s. to 6s.; Nouveau Monde, 21s. 3d. to 23s. 9d.; Ogeogus, par; Pestana United, 5s. to 7s. 6d.; ditto, 12½ per cent. preference, 21s. to 25s.; Quartz Hill, 1s. prem.; Tecoma, 3s. 9d. to 6s. 3d.; and West Fronton, 10s. to 15s.

In shares of oil and miscellaneous companies the movements comprise advances of 2s. 6d. per share on Scottish Wagon shares, also Young's Paraffin, 1s. 3d. on Uphalls, and 6d. on Oakbank (new), but Oakbank old shares are reduced 3s. Uphalls advanced from 7½ to 8½, but are now easier. Lawe's Chemical firm, at 5 to 5½.

THARSIS SULPHUR AND COPPER COMPANY (Limited).—At the annual meeting of this company, on Wednesday, the Chairman said notwithstanding the general quietness in trade their volume of business last year had been larger and more profitable; their deliveries of pyrites and production of copper more extensive; and costs diminished in all departments. The extraction of gold and silver by the Claudet process was also being successfully carried out. The prices realised for iron ore and copper were rather lower, and sulphur unaltered. Referring to the prospects, he announced the tripartite agreement was renewed for several years with the sulphur at 6d., and they had sold their proportion at this. The deliveries are not likely to fall short of last year's. As regards prices, iron ore was rather lower, but copper, on which their profits mainly depended, showed signs of improvement, owing to falling off in supplies from Chili. A scheme is raised to call up 1½ per share on the 7½ paid shares, and convert them into stock. The company propose to give all shareholders option of having their shares made payable to bearer, and are also considering the propriety of reducing the shares from 10½ each to some smaller figure, so as to bring them within the reach of small investors.

EDINBURGH.—Messrs. THOMAS MILLER AND SONS, stock and share-brokers, Princes-street (June 23), write:—The railway market has been quiet during the past week, and prices generally have not changed much. Great Northern of Scotland, however, have receded from 66 to 63½ and Brighton Deferred from 137½ to 135½. Preference guarantees and debenture stocks have maintained their prices. Canadian railways have had a heavy fall, owing to the lowering of rates. The last prices show a recovery from the lowest point. American railways have had a rise to-day on improved New York prices. In banks, Clydesdale has declined 1½ to 2½, and National has risen 1½ to 2½. Standard Life Insurance have risen from 75 to 77. Marbella Iron Ore shares have receded from 7½ to 7¼. Clyde Coal from 74s. to 73s. Oakbank old have declined from 39s. to 36s., and Uphall Oil have risen from 8 to 8½.

IRISH MINING AND MISCELLANEOUS COMPANIES' SHARE MARKET.

DUBLIN, June 23.—There has been a little more business this week in nine shares. Berehaven have been freely dealt in at 6s. 3d., but have since receded to 6s., and there have been some transactions in Wicklow at improved prices. Killaloe slate are quoted 9s. 6d. per share at present and have been done from 6d. to 1s. higher. Mining prospects appear to be somewhat improving.

CORK.—Messrs. J. H. CARROLL AND SONS, stock and share brokers, South Mall (June 22), write:—Markets continue steady. Great Southern have advanced to 112, and Midlands were bought at 85. Wicklows are 82½. No change in Bandons or Passages. National Bank done at 69, and Munsters at 7½. Provincials are 61½, and Hibernians 43½. Cork Steam Packets remain 12½, and Gouldings 9. Levy's are 4½, and Gas shares 7. Lyons fully-paid shares were done at 6, and Harbour Board debentures 102½ per cent.

COLORADO MORTGAGE AND INVESTMENT COMPANY OF LONDON (Limited).—The directors have resolved to recommend a dividend from the profits of the year ending May 15 last at the rate of 10 per cent., and 5 per cent. bonus, making the distribution for the year 15 per cent.

ELECTRIC WRITING COMPANY (Limited).—A petition has been presented and an order made for the winding up of this company. Mr. Chitty, Q.C., and Mr. Oswald supported the petition; and Mr. Ince, Q.C., and Mr. Lemon, on behalf of the company, consented to the order asked for.

INDIAN MAMMOTH GOLD MINES COMPANY (Limited).—A petition has been presented for the winding up of this company, and the usual compulsory order made. Mr. Chitty, Q.C., and Mr. Russell Roberts were for the petitioner, and Mr. A. O. Edlis was for the company.

SKESBY COLLIERY, LIME, AND BRICK COMPANY (Limited).—An order has been made for the winding up of this company under the supervision of the court. Mr. Romer, Q.C., Mr. Bush, and Mr. Grosvenor Woods were the counsel appearing.

RUSSIA COPPER COMPANY (Limited).—This was a winding up which had stood over for the reconstruction of the company. It was stated that a scheme had been arranged, and directions were now given by the court for meetings to be called at which the liquidator should preside. Mr. Whitehorn, Q.C., and Mr. Rashleigh were the counsel appearing.

TELEPHONE & TELEGRAPHS.—At the Mersey Docks Board meeting on Thursday it was stated that the long controversy as to the right of using telephones over the dock estate as opposed to telegraphs had been at last decided by the Court of Queen's Bench, which ruled that the two wires were practically identical. Henceforth, therefore, parties using telephones would be accountable to the Post Office.

Messrs. PENNINGTON AND CO., SWORN BROKERS, 3, ROYAL EXCHANGE BUILDINGS, LONDON, E.C., having had TWO THOUSAND SHARES in this (TREVINE CONSOLS MINE) placed in their hands FOR DISPOSAL at 22s. 6d. per share, are prepared to receive application for any portion of same on the following terms:—10s. per share on application, and balance as required, in sums not exceeding 5s. per share, and at not less than one month's notice.

IT IS UNDERSTOOD THAT THE WHOLE AMOUNT REALISED BY SAID SALE WILL BE EXPENDED IN MACHINERY AND WORKING THE MINE.

The company is managed strictly on the NO CREDIT SYSTEM—every account being charged and paid monthly. Having lately (together with several eminent mining authorities) inspected the property, we have no hesitation in stating that (for the depth) it is the best mine in Cornwall at the present time. We have every confidence in recommending the purchase of these shares not only for a rapid rise in price, but as a *bona fide* investment.

SPECIAL ATTENTION IS CALLED TO THIS IMPORTANT PIECE OF RICH MINERAL GROUND:—

- 1st.—That the north part immediately adjoining this has paid £1,200,000 in dividends, and Wheal Moor, one of the mines included in the above (and was immensely rich), is now a part of this grant, and large quantities of tin and copper can be taken away at once.
- 2nd.—That Tresavean lodes, which paid £800,000 in dividends, are in the entire length of this property.
- 3rd.—That it is estimated, judging from the important discoveries already made, in 12 months substantial dividends will be declared.

Trevine Consols Mine

(TIN AND COPPER).

DIVIDED INTO 12,000 PARTS OR SHARES.

Situated in the celebrated Mining Parish of GWENNAP, CORNWALL, from which has been raised as much, and probably more, mineral than any other Parish in the County, which may be estimated at many millions sterling.

PURSER—Mr. JOHN HENRY MAYNE (of East Pool Mine), St. Day, Scorrier, Cornwall.

AUDITOR—Mr. JAMES TREGONING, Auditor of Dolcoath Mine, and Actuary of Redruth Savings Bank, &c., &c.

BANKERS—CORNISH BANK (Limited), Redruth, Cornwall.

This mine is being worked on the Cost-Book principle, which is better than any Limited Liability Act that could be framed for working Cornish mines, and seeing that the whole of the following immensely rich and productive mines in this parish were worked on the Cost-Book principle it must be a conclusive fact that it is the very essence upon which Cornish mines should be worked to be remunerative, viz.:—

Tresavean lodes (which pass through this grant) the late Mr. William Francis records in his History of Gwennap as having paid in dividends over ...	£ 800,000
Penstruthal Mine paid as much as £17,500 in two months' working ...	130,000
Wheal Beauchamp ...	130,000
Trethellan Mine ...	48,441
Treviskey Mine ...	37,920

(These mines are on the west.) £1,146,361

The adjoining mines on parallel lodes to north are—The group of mines including Old Ale and Cakes, Poldory, Wheal Moor, Sunny Corner, Wheal Todd, Consols and Clifford, are all adjoining sets with this (Trevine Consols) ...

The surrounding mines in the same parish and district include—	£1,200,000
Wheal Jewell ...	409,000
Wheal Unity ...	390,000
Treskerby ...	200,000
Poldice ...	200,000
Wheal Damsel ...	180,000
Wheal Gorland ...	150,000
Carharrack ...	80,000
Ting-Tang ...	50,000

Total paid in dividends ... £3,996,361

It is also very gratifying to know that East Pool Mine, the richest mine in the county at present (with which the purser is connected, and has been for 13½ years), is worked upon the Cost-Book Principle, also Dolcoath, Tincroft, Carn Brea, Wheal Agar, and the whole range of mines in that district—the richest tin-producing district in the world at present.

The discoveries that have been made in Trevine Consols are most valuable, and it is confidently believed by a little deeper development will realise one of the richest mines ever opened up in Cornwall. The sett is extensive, being about 360 fms. long, and 360 fms. wide, and traversed by lodes of great historic repute, which have been so productive in the neighbouring mines.

The lodes are of regular and well-defined character, showing great mineral strength. The engine-shaft has been sunk about 15 fms. from surface, at which depth a level has been driven north and south from the shaft, and in the former a lode has been cut, which is from 4 to 5 ft. wide, and worth £12 per fathom, and presenting, altogether, evidence such as is unmistakable in Gwennap of there being a large body of rich copper ore at but little depth below the present workings; and it is confidently relied on that the most san-

guine expectations will be realised. The copper ore broken from this lode is to be seen at surface, and returns can be made at once from this ore ground after the engine is at work.

Further west, about 60 fms., another shaft has been sunk about 5 fms., which has laid open a lode worth £15 per fathom. This is much talked about by the miners of the district, because it is precisely the same in character as was produced by the lodes of the neighbouring rich mines at a similar depth; more particularly Wheal Buller, which paid 220,000 in dividends in 10 years. The high character of this lode fully justifies the opinion that before the shaft is many fathoms deeper it will open up a great course of rich copper ore. Should the north level be driven about 9 fms. further, and the lode cut productive (which is 10 fms. deeper), a course of ore from shaft to shaft about 60 fms. long and 10 fms. high (making altogether 600 fms. of ore ground) will be laid open at once.

MIDDLE SHAFT.—This shaft is sunk about 10 fms. on the course of the lode, which is 6 ft. wide (splendid lode), composed of copper, mundic, &c., and improving; in about 10 fms. deeper another lode to the south of this (highly mineralised), from its present underlie, will form a junction, when it is expected a large course of copper ore will be discovered.

NEW SHAFT.—This shaft is down about 13 fms. from surface. In the 10 there is a lode producing 6 tons of copper, mundic, &c., per fathom, east and west.

In cross-cutting about 5 fms. north from this shaft, one of Wheal Moor lodes has been cut, worth from £12 to £15 per fathom, and improving. This is a most important discovery.

OLD SHAFT.—About 9 fms. north of the new shaft, down about 4½ fms. from surface, is a lode worth 10½ per fathom. A cross-cut is now being driven from the new shaft to cut this lode; it is expected this will be accomplished in a few days. If good, of which there is no doubt, there will be another additional discovery for the length of the sett.

Two other lodes, composed of copper, mundic, tin, &c., have been discovered.

The same cross-courses that are in the adjoining mines are in this mine; it is also traversed by two large elvan courses over 40 ft. wide each.

The importance of these most valuable discoveries cannot be too highly estimated; and looking at the fact that the mine has already opened up so productively, and that the district is so proverbial for shallow and deep courses of tin and copper ores (it is believed the ground is teeming with mineral), that it will be one of the greatest and best mines that the district ever produced.

In addition to these discoveries there are also three other lodes in Wheal Moor part of the grant, from which immense quantities of tin, copper, and mundic can be taken away almost at once remuneratively.

The mine, which is held under a lease for 21 years, at the low royalty of 1-24th and 1-30th, has been inspected by Capt. Maynard, of East Pool Mine, Capt. White, of Wheal Peavor, Capt. Prisk, of South Wheal Francis for many years, and now of Wheal Union, and others, whose reports are most favourable. Copies of same can be obtained of the purser, or Messrs. Pennington and Co.

Registration of New Companies.

The following joint stock companies have been duly registered:—

SARAMACCA PIONEER GOLD MINING COMPANY (Limited).—Capital 3000L, in shares of 1L. To acquire by purchase certain gold and silver mining rights situate in the district of the Saramacca River, Surinam, Dutch Guiana, or any other mining properties, mining rights or interests in South America, to sell or otherwise dispose of same, or carry on all operations connected with a gold mining company. The subscribers (who take one share each) are—E. Coleman, 84, Leadenhall-street, merchant; J. W. Myers, 20, Westbury-road, gent.; G. Levy, 100, Southwark-street, merchant; L. Pinto, 9, Gracechurch-street, merchant; M. P. Isaacs, 60, New Broad-street, merchant; G. Levy, 31, Throgmorton-street, stock and share dealer; W. E. Pearce, 4A, Cheapside, accountant. The following are the first directors—Messrs. Coleman, Myers, Isaacs, and Levy. Qualification, 100 shares.

BRITHDIR SLATE AND SLAB QUARRY COMPANY (Limited).—Capital 20,000L, in shares of 5L. To purchase or otherwise acquire a quarry situated in the parish of Llanfrynadr-yw-Mochnant, Montgomeryshire, the exploring, developing and workingsame. The subscribers are—T. Walsley, Llanfyllin, 20; S. Stringer, Manchester, 20; G. Wills, Manchester, 20; A. S. Luck, Manchester, 1; C. Klein, Levenshulme, 1; W. G. Sharpe, Garston, 1; G. Drinkwater, Patricroft, 1.

THOS. FIRTH AND SONS (Limited).—Capital 320,000L, in shares of 500L. To acquire and continue a business or steel, file, saw, and edged tools manufacturers established at Sheffield and elsewhere. The subscribers (who take one share each) are—T. H. Firth, Sheffield; J. B. Firth, Sheffield; J. H. Barber, Sheffield; E. P. Broomhead, Sheffield; S. Roberts, jun., 2, Stone Buildings; E. Firth, Sheffield; C. H. Firth, Sheffield; T. Firth, Sheffield; J. B. Firth, Sheffield; L. J. Firth, Sheffield; J. L. Firth, Sheffield.

THE COOTACOVIL GOLD MINING COMPANY (Limited).—Capital 100,000L, in shares of 1L. To purchase or otherwise acquire part of the property, mining, or other rights of the Tambacherry Estates and Wynaad Gold Mining Company (Limited), and to work the mines, reefs, minerals, and mining rights situate in the Madras Presidency, also to acquire tea estates and coffee plantations in the same Presidency, and to plant and cultivate the same. The subscribers (who take 250 shares each) are—H. Knowles, Reigate, merchant; J. Labouchere, 38, Mincing-lane, colonial broker; H. Tolputt, 32, Great St. Helen's, brokers' assistant; H. G. Arbuthnot, 33, Great St. Helen's, merchant; M. H. Parteur, 38, Mincing-lane, merchant; M. G. Lavers, 38, Mincing-lane, colonial broker. The first directors are—Messrs. Knowles, Labouchere, Tolputt, and W. B. Arbuthnot. The number must not be less than three or more than five.

THE RIO GRANDE DO SUL (BRAZIL) RAILWAYS COMPANY (Li-

imited).—Capital 2,500,000L, in shares of 20L. To construct, maintain, and work railways in South America. The subscribers are—J. P. Beadle, 6, Queen's Gate Gardens, 75; A. A. Fraser, 10, Craven Hill, 38; T. B. Higson, West Kensington, 25; J. Caird, 8, Queen's Gate Gardens, 25; A. de Mornay, Oxon, 87; C. Neate, 4, Victoria-street, 13; W. W. Hyde, 141, Westbourne-terrace, 12.

THE MONA CONSOLS COPPER MINING COMPANY (Limited).—Capital 20,000L, in shares of 1L. To adopt and carry into effect an agreement made between J. Campbell, of the one part, and W. Battye, as trustee, for the purchase by the company of the lease of the Port-y-rwel Copper Mine, situate in the parish of Amlwch, Anglesea, to work and develop the site or any other mining property, and to carry on and conduct the business of a mining and smelting company in all branches. The subscribers (who take one share each) are—J. Campbell, Crouch Hill, no occupation; W. Wrenn, Crosby Hall Chambers, stockbroker; J. Titall, Peckham, printer; J. Stewart, 27, College-place, compositor; T. W. Nicholson, Buckhurst, lithographer; W. Heath, Anerley, gent.; E. Southwell, 1, Cophall Chambers, accountant. The number of directors must not exceed five or be less than three. The remuneration, 100L per annum, to be divided amongst them. Qualification 50 shares.

LORD BYRON AND VALENTINE MINING COMPANY (Limited).—Capital 100,000L, in shares of 1L. To acquire by purchase or otherwise certain mines and mineral properties, rights, and privileges, situate in the district of Eureka, State of Nevada, according to the terms laid down in an agreement, and the carrying on of a mining business, manufacturing, smelting, refining, and reducing the ores, minerals, and produce, purchasing and selling gold, &c. The subscribers (who take one share each) are—L. Malcolm, 22, St. Mary Axe, merchant; W. A. Malcolm, 5, Crosby-square, merchant; G. Heiron, 57, Lombard-street, clothier; J. T. Hamilton, 5, Crosby-square, secretary; H. Stanley, 5, Crosby-square, clerk; W. Armstrong, 26, Austinfriars, merchant; S. H. Newman, South Lambeth, clerk. The remuneration of the board not to be less than 750L per annum, the number of directors not to be less than four or more than seven.

THE YUBA RIVER GOLD WASHING COMPANY (Limited).—Capital 40,000L, in shares of 1L. To purchase or otherwise acquire mines, mining properties, lakes, reservoirs, mills and water-courses, and any other real or personal estate in California, or any interests therein, and in particular the properties and business of the Blue Tent Consolidated Hydraulic Gold Mines of California (Limited) and those of the Fall Creek Lakes Water Company (Limited). To open and work all or any of the mines and other properties, and to carry on the business of miners, quarrymen, smelters and refiners of ores, engineers, manufacturers of mineral or metallic produce, &c. The subscribers (who take one share each) are—J. T. Courtney, 3, Plowden Buildings, barrister; R. Bird, Oxford, M.A.; G. W. Dixon, St. Leonard's, no occupation; M. W. McKellar, Temple, barrister; E. Neame, Faversham, farmer; C. Neve, Amberfield, farmer; G. Newington, East Dulwich, solicitor. The first directors are—Messrs. Courtney, Dixon, Bird, and J. E. Rowe, the qualification being 200 shares.

CARNARVONSHIRE GREAT CONSOLS LEAD MINING COMPANY (Limited).—Capital 75,000*l.*, in shares of 2*l.*. To acquire and undertake the assets and liabilities of the Llanrwst Lead Mining Company (Limited), and to carry on the business of miners, smelters, metallurgists, and quarry owners. To buy and sell, refine, and deal in metals, ores, minerals, and mineral substances and compounds of all kinds, and generally to carry on all operations incidental to that of a lead mining company. The subscribers (who take one share each) are—C. H. Fall, Leytonstone, esquire; W. H. Pym, 3, Percy Circus, accountant; H. D. Parsons, 81, Bishopsgate-street Within, clerk; J. J. Arnutt, Kingsland, clerk; A. Edean, 85, Gracechurch-street, shareholder; C. B. Smith, 3, Cloth Fair, accountant; A. W. Gregory, Hornsey, valuer. A director's qualification is fixed at 100*l.*. The number must not be less than three or more than six.

THE FOREIGN MINING ASSOCIATION (Limited).—Capital 5000*l.*, in shares of 1*l.*. The acquisition, developing, working, selling, or otherwise disposing of mining and other property and interests abroad, and the extracting, smelting, refining, or otherwise treating minerals or other substances. The subscribers (who take one share each) are—T. S. Griesbach, Hornsey, land agent; W. M. Gow, 167, Piccadilly, accountant; C. H. Hoare, 20, Wansley-street, clerk; A. S. Body, Battersea, clerk; D. B. Lindsay, Brixton, secretary; J. Milne, 11, Queen Victoria-street, accountant; A. H. Bailey, jun., 3, Royal Exchange Buildings, printer. Qualification 100 shares.

THE ORION DIAMOND MINING COMPANY (Limited).—Capital, £250,000 in shares of £10. To acquire by purchase 45 land claims situate at Du Toit's Pan, Grigoland West, South Africa, according to the terms of an agreement entered into, together with the plant, houses, utensils, machinery, and other effects, for the purpose of carrying on all operations connected with diamond mining and the searching for precious stones. The subscribers (who take one share each) are—J. Mosenthal, 5, Copthall Buildings, merchant; H. Mosenthal, 5, Copthall Buildings, merchant; A. Dinkelsbühler, 97, Hatton Garden, merchant; S. W. Paddon, Union Bank Chambers, merchant; J. W. Salomon, 5, Copthall Buildings, merchant; W. Ford, Addiscombe, buyer; R. Hoscuth, 5, Copthall Buildings, clerk.

THE COLLIERIES COMPANY (Limited).—Capital 100,000*l.*, in shares of 5*l.*. To purchase or otherwise acquire certain coal mines and beds of freestone and mineral lands situate in the parish of Winton, county of Durham, known as the Blaydon Main Colliery, with all effects belonging thereto, working and developing said property, and carrying on the business of a colliery owner in all branches. The subscribers are: J. W. Kincaid, South Kensington, merchant, 50; J. T. Ramsay, Newcastle-on-Tyne, colliery owner, 1; G. R. Ramsay, Newcastle-on-Tyne, manager, 1; S. S. Malcolm, Kingswear, merchant, 400; A. Forsyth, 27, Leadenhall-street, gentleman, 150; J. Ogle, 84, Lombard-street, merchant, 200; G. Sichel, 153, Abbey-road, gentleman, 400.

THE FLINTSHIRE AMALGAMATED SILVER-LEAD MINES (Limited).—Capital 50,000*l.*, in shares of 1*l.*. To purchase or otherwise acquire lands, mines, and mineral properties, or rights and interests in same, in the county of Flint, or elsewhere. To work, explore, develop, and maintain the mines, minerals, or other properties thus acquired by the company, and to carry on generally the business of a mining, smelting, trading, and metallurgical company in all its branches. The subscribers (who take one share each) are—W. Richardson, Cheetham, agent; H. Cadman, Urmston, manager; W. Whitehead, Openshaw, agent; W. H. Whalley, Rusholm, agent; A. L. Leech, Manchester, agent; W. H. Brookes, Openshaw, traveller; R. H. B. Redford, Maida Vale, secretary. The subscribers to appoint the first directors. A fee of 4*s.* will be paid for each attendance at the board. The number of directors must not exceed nine, or be less than three.

THE CHILE GOLD MINING COMPANY.

Although the Venezuelan mines have been but comparatively few years familiar to British capitalists the results which have been already obtained from them are sufficient to make them attractive. It is but a short time since that the Potosi was placed upon the market and had a reception which has seldom been given to a mining enterprise—the reason no doubt being that the intrinsic worth of the property was fully recognised. In the last page of to-day's Journal an equally valuable property is announced in the same region and brought forward under equally favourable auspices. The Chile Gold Mining Company has a capital of 500,000*l.* in shares of 1*l.* each; but of these 165,000 have been allotted to the vendors and 125,000 are applied for and will be allotted in full, so that only 210,000 remain to be placed—a number which with the reputation Venezuela at present enjoys will, it is believed, be quickly disposed of.

The property to be acquired, and for which 425,000*l.* is to be paid, leaving the very ample working capital of 75,000*l.*, embraces the well-known Mocuapia Estate and Chile Gold Mine, situate in the State of Guayana, Venezuela, and held under grants from the Government for a term of 50 years (of which 44 years are still unexpired), renewable for a further period of 50 years. The property comprises an area of about 650 acres, and contains the greater portion, so far as developed, of the noted Chile Gold Lode. The surface is principally covered with wood, which is available for mining purposes, and for fuel. Several auriferous quartz veins run through the estate, but the proved extent and richness of the Chile lode has hitherto induced the proprietors to confine their attention solely to its development. The directors of this company also propose to limit the operations to this vein, and at a later period to sell or lease the remaining gold lodes comprised in the property.

It would be difficult to find a better authority upon the mines of this district than Mr. George Attwood, whose position as manager of the adjoining Potosi Mine must have given him every facility for acquiring a complete knowledge of the various veins and properties. He gives an interesting table, which shows that from 747½ ozs. of gold in 1871 the quantity annually increased, until in 1880 it reached 14,525½ ozs., the quality of the quartz regularly and gradually improving during the same period from 3 oz to the ton to 2½ ozs. to the ton, and he mentions that during the past 10 years about 300,000*l.* have been expended in acquiring and developing the Chile property and demonstrating its value. The table referred to proves how regularly the vein has improved in richness as depth increases, and Mr. March, who has managed the mine for seven years, estimates the future yield of gold at from 2½ to 3½ ozs. per ton of quartz.

Mr. Attwood fully shares Mr. March's views in this respect, and states that his opinion is further confirmed by the results obtained from the small portion of the Chile vein worked by the Potosi Company, between the old and the engine shafts of the Chile Mine. Mr. Provis, engineer to that company, states in his report, dated Oct. 2, 1880, that the quartz from the Chile vein had produced on an average during the preceding 12 months 3 ozs. of gold per ton, and was still improving, the last month's return having reached 3½ ozs. per ton. Moreover, the section of the Chile vein worked by the Potosi Company here referred to, and from which they extracted 52,338 ozs. of gold, value 200,676*l.*, during the 3½ years ending Sept., 1880.

As to the results to be anticipated, Mr. Attwood says that, taking the total expenditure at the mines and in London at five times the amount of the greatest cost ever incurred when running 20 stamps (700 ozs. per month), the total monthly expenditure would amount to 3500 ozs., leaving a profit balance of 5125 ozs. melted gold, or 19,751*l.* per month—equal to a profit of 236,772*l.* per annum. He estimates that, from July 1 of the present year, the company will be able to earn a net profit in twelve months of 53,055*l.*, or upwards of 10 per cent. upon the capital of the company. By July 1, 1882, he estimates that the proposed additional machinery will have been erected and brought into full operation, from which period a profit of at least 200,000*l.* per annum should be realised.

PANAMA CANAL.—Under the title of Additional Notes on the Isthmus of Panama, Capt. George Peacock, F.R.G.S., of Starcross, published on June 9—"his 76th birthday"—in which he gives a quotation from a statement of Samuel de Champlain, the founder of Quebec, written in 1599, in which, after observing that all the gold and silver from Peru comes by way of Panama, Champlain says:—"L'on peut juger que ces quatre lieues de terre qu'il y a de Panama à cette rivière estoient coupées, l'on pourroit venir de la mer

du su en celle deça, et par ainsi l'on accourciroit le chemin de plus de 1500 lieues," and he adds that since from Panama to the Straits of Magellan would be one isle, and from Panama to the Terres neufes another isle, America would be in two islands. Captain Peacock gives the text of a handsome diploma of honour, with a decorative State ribbon and a silver medal, which he has received from the Colombian Government for his surveys and explorations of the Isthmus of Panama in 1831, 1832, and 1842. The whole pamphlet is well worth perusal, and contains a large amount of information.

THE VAN MINES—MONTHLY REPORT.

June 22.—As under, please find my monthly report on this mine. In the 120 west I am glad to be able to report that the end looks more encouraging than I have seen it for a long time. We have a very kindly lode, producing a little lead, and on the footwall we have a fine rib of carbonate of lime, and a very strong stream of water, so that we think with such indications we shall ere long make a good discovery here. These indications have not yet failed in this mine. In the 105 east we are still driving upon a strong lode, very ugly, and producing chiefly blende. In the rise in back of the 105 west we appear to have got hold of the ore ground. The rise is up 4 fms., and is now worth for lead about 23 cwt. per cubic fathom. The stope in back of the 105 west, three in number, are worth on the average 33 cwt. of lead ore per cubic fathom; average width, 18½ ft. The stope in back of the 90, east and west of shaft, are on the average 17 ft. wide, and are worth 1 ton of lead ore per cubic fathom. The stope in back of the 75, eight in number, are on the average 21½ ft. wide, and worth 32 cwt. of lead ore per cubic fathom. The two stope in back of the 60 west are 18 ft. wide, worth 2 tons of lead ore per cubic fathom. The stope in back of the 60 east is 7 ft. wide, worth 22 cwt. of lead ore per cubic fathom. The 15 is driven east of shaft 130 fms.; we have yet about 49 fms. to reach the line of the winze where the lead was first seen in the old workings, but it is quite possible that we may make a discovery before reaching that point. The forebreast is spotted throughout with small specks of lead, which we consider a very favourable indication.

Van Hill. In consequence of deficient ventilation, I have removed the men from the north lode cross-cut (at Van) to make a few trials at Van Hill. They will be able to commence driving a short trial cross-cut in the lower adit in a day or two. They have a little work in clearing away falls and doing some repairs to the timbering. In a few days we shall set a pair of men to commence sinking a winze on the bottom of the 105 west, in advance of the 120, in order to ventilate that level.—Surface: Everything at surface is going on regularly; machinery are all kept in working order. Farm looking well. Our four-weekly sale takes place to-morrow upon 200 tons of lead and 100 tons of blende. The following are the bargains set for the ensuing two months:—The 120 west to 4 men, at 100*s.* per fathom; the 105 east to 2 men, at 160*s.*; the rise in back of the 105 west to 4 men, at 80*s.*; the 150 stope in back of the 105 west to 4 men, at 55*s.*; the 100 ditto to 8 men, at 52*s.* 6d.; the 80 ditto to 8 men, at 52*s.* 6d. The stope in the back of the 90 as under: The 20 west to 8 men, at 50*s.* per fathom; the 40 west to 8 men, at 70*s.*; the 60 west to 8 men, at 77*s.* 6d.; the 80 west to 8 men, at 62*s.* 6d.; the 140 west to 8 men, at 50*s.* The stope in the back of the 75 as under: The 20 east to 8 men, at 65*s.* per fathom; the 20 west to 8 men, at 50*s.*; the 40 west to 8 men, at 47*s.* 6d.; the 60 west to 8 men, at 47*s.* 6d.; the 80 west to 8 men, at 50*s.*; the 100 west to 8 men, at 50*s.*; the 120 west to 8 men, at 45*s.*; the 150 west to 6 men, at 65*s.* The 60 permanent level is set to 4 men, at 55*s.* per fathom. The two stope in the back of the 60 west are set to 8 men in each, at 77*s.* 6d. per fathom. The eastern stope is set to 6 men, at 80*s.* per fathom. The Van Hill cross-cut is set to 2 men, at 90*s.* per fathom.—W. H. WILLIAMS.

SORTTRIDGE—SPECIAL REPORT.

Cook's Kitchen Mine (Camborne), June 21.—I have carefully inspected Sortridge Mine, as requested, and beg to hand the following report:—The sett is an extensive one, being about 500 fms. long on the course of the lodes, and is well supplied with surface water for all purposes. The mine was formerly worked to a depth of 90 fms. below the adit, or 140 fms. from surface, but the water is now up to the adit level. The old workings were confined to that portion of the Copper Lode lying between North Robert's and the cross-course, a distance of 80 fms., and from this piece of ground some 60,000*l.* worth of ore was sold. In endeavouring to find the lode on the other (western) side of the cross-course the old company drove their levels too far north, and failed to discover the lode. Recently, however, it has been ascertained by sinking a new shaft from surface, about 15 fms. west of the cross-course, to a depth of 6 fms., that the cross-course did not leave the lode as was formerly supposed, but simply disordered it. The back of the lode is now laid open in the new shaft and presents a very promising appearance, being about 8 ft. wide, and composed of gossan, quartz, and nodule, with stains of black copper ore. I should recommend that the 40 fm. level from surface be driven (after careful dialling) through the cross-course to intersect the copper lode at that depth. This can be easily done, as the lode is now opened upon in the new shaft, and the cost will be small. I see no reason, looking at the large returns of copper made on the eastern side of the cross-course, why the lode should not prove equally rich on the western side.—The Tin Lode lays north of, and probably forms a junction with, the copper lode westwards. About 160 fms. west of the cross-course a new shaft is being sunk, which is now 6½ fms. from surface. The lode in the bottom of the shaft is 4 or 5 ft. wide. I very carefully took samples from a pile of tin stuff (about 6 tons) broken from this point, and found it to yield 48 lbs. of tin per ton. A few pits were sunk on this lode in the eastern part of the mine a century or more ago, but nothing has since been done in this part of the sett. Judging from the general character of the lode and its geological position, I am of opinion that when properly developed it can be worked at a good profit. I should recommend that an adit be brought up on the lode from the base of the hill, as this will give a piece of ground several hundred fathoms in length, and varying from about 20 to 50 fms. high. This could be very cheaply worked, as no steam power either for pumping or hauling would be required. I consider that your prospects at Sortridge are very good, and with a vigorous prosecution of both tin and copper lodes I believe you will have a good and permanently remunerative mine. There are other known lodes standing to the south of the tin and copper lodes, but very little has been done upon them. I should for the present confine operations to the tin and copper lodes reported on above.—CHAS. THOMAS.

WHEAL GOLDEN AND EAST WHEAL GOLDEN MINES (Perranzabuloe, Cornwall).—These mines, which immediately adjoin the Perran Silver-Lead Consols, are about to be worked by a company with ample capital to develop the property. When the mines were stopped in 1856, owing to inadequate machinery both for winding and pumping, they were producing only 60 tons of rich silver-lead per month, but required a moderate expenditure of capital and good machinery to double or even treble that production. This refers only to the Wheal Golden Mine, which has already been sunk to the 127, and was producing 3 tons of silver-lead per fathom in the shaft when stopped, and shallower levels had gone through a continuous course of ore, worth 40*l.* per fathom, for over 40 fathoms in length. The East Wheal Golden, in which the late Sir Frederic Williams at his death was largely interested, and which was only stopped in consequence of that event, is a most promising property, very much richer in silver than either Wheal Golden or Perran Consols. A moderate expenditure of capital is required to make this portion of the property equally as productive as the Wheal Golden, and the two properties being proposed to be worked together will save great expense in management, &c.

WEST CARADON.—This mine has much improved since the general meeting of the adventurers, held on the 17th inst., when the various points of operation were valued by the agent as worth, in the aggregate, 7 tons of copper ore per fathom. The agent now values them at 10 tons of ore per fathom.

NEW WEST CARADON.—A considerable improvement has taken place in the 42 fm. level on the main lode, which is now worth 2 tons of copper ore per fathom. At this point there is said to be a run of 150 fms. of wholly untried ground upon the lode, which was never seen under the former working.

PERRAN SILVER-LEAD CONSOLS (Perranzabuloe, Cornwall).—Mr. William Ellison, the chairman of the company, accompanied by Mr. Makepeace, the secretary, visited these mines on Monday, and were much gratified at the progress which, under Captain Richard Pryor's management, has been made, notwithstanding the great severity of the winter, which for so long a period rendered the transit of the heavy machinery quite impossible. A 60-inch cylinder steam-engine has been erected, and will be ready to commence pumping out the water in about ten days time, as the 18-inch lifts of pumps are standing intact from the adit level to the 117 fathom level. A 20-inch cylinder winding engine has been erected, and Messrs. Harvey and Co. are supplying a steam capstan engine and two 12-inch cylinders. It is expected that early in August the water will be forked, when the reserves which were left in the mine on the back and ends of the 117 fathom level, north and south of the engine-shaft, can be at once rendered available, and as the lode in the engine-shaft was producing 3 tons of lead per fathom, operations will be at once resumed in sinking so as to open out the deeper and richer ground. These ores, averaging about 25 ozs. of lead per ton, largely increase the selling value.

NEW KITTY.—We are officially informed that the difficulty in clearing the New Kitty shaft has been very great, the stuff being so compact with which the mine was filled. However, the utmost dispatch has been made, and it is anticipated that the bottom of the shaft will be reached before three weeks hence, when no doubt

much light will be thrown on the company's prospects. The greatest energy and economy is observed in all departments.

BRATSKOPPE COPPER MINES.—A letter has to-day been received from Captain Daw, at the mines, in which he says:—"I am pleased to inform you we have a good improvement in what is called No. 2, which is our furthest end west. The lode is now over 2 ft. wide, composed of quartz and rich copper ore, opening up splendid stopeing ground. In fact, you will be surprised when you come out to see what a mine we have." We need make no comment on this, beyond remarking that we have no doubt the greatly extended operations about to be carried on by the company just formed will lead to many such, and even richer, discoveries.

BRAZILIAN GOLD MINES.—At the annual general meeting of shareholders, reported elsewhere, satisfactory information was submitted. The advices just to hand show that various important improvements have taken place in several of the mines. In the Descoberta the lode has increased to no less than 40 ft. in width. The manager says that "the whole of the drift is being saved for future treatment, producing a uniform sample of gold." Shareholders will recollect that the Descoberta mines contain three lodes, which had proved very rich for gold places—20 lbs. of stone producing upwards of 100 oitavas of gold. It is under these rich old workings two of these lodes have formed a junction, now 40 ft. wide, producing a uniform sample of gold. The prospective importance of this discovery cannot be over-estimated. The Matia Matia vein has also improved, being 5 ft. wide, thickly charged with pyrites—a most favourable indication—carrying samples of gold. The other mines are progressing well. The Jacotinga section continues to yield gold in several of the "lines," indicating the nearness of rich deposits. With ample capital at command, these mines are likely to prove a great prize.

THE SMOKE NUISANCE.—An Exhibition of Heating and Smoke Preventing Appliances will be held under the auspices of a joint committee of the Kyrle and National Health Societies, at South Kensington, on Oct. 24, closing on Nov. 26. The public need for this exhibition has caused a great number of new patents to be taken out for improvements in the lighting and heating art, and there are evident indications of a change from the old and barbarous state of things, which has already caused so much waste and discomfort to the community. The exhibition has the honour of being presided over by his Royal Highness Prince Leopold, Duke of Albany, K.G., and by the Duke of Westminster, K.G., and the administration is in the hands of an influential executive committee. The arcades of the Royal Horticultural Society and some of the galleries belonging to the Royal Commissioners of 1851 have been lent for the purposes of the exhibition. Numerous medals and prizes in money will be awarded to the inventors of the best appliances for the prevention of smoke from boiler furnaces, ranges, and domestic grates—as also for improved fuels for household and manufacturers' use. Many applications for space have been received in advance of the particulars of the exhibition, and intending applicants should apply before June 30 to Mr. G. R. Redgrave, Works Office, South Kensington Museum. At the exhibition trials of apparatus will be made and reported upon, and popular lectures will be delivered by various scientific authorities on the subject of heat, fuel, &c., in furtherance of this important movement. It may be mentioned that the better utilisation and selection of coals, especially for the use of large towns, would be of advantage both to the public and to colliery proprietors generally.

THE AURIFEROUS BLACK SAND OF COUNTY WICKLOW.—At the Royal Dublin Society, on Monday, Prof. W. R. M'Nab, M.D., F.R.S., presiding, Mr. Gerard A. Kinahan read a "Note on the Occurrence of Black Sand in the Drift North of Greystones, County Wicklow." Mr. Kinahan stated that this auriferous sand accumulated at the base of the cliffs north of Greystones during the heavy gales last autumn, its occurrence then being due to the wasting away of the cliff during storms, it being widely disseminated through this drift. It is composed principally of magnetic iron, chromic iron, and garnets, but contains numerous fine grains of tinstone and gold, besides other minerals. In a sample of 7 lbs. 37 small grains of gold were found; and from another sample, taken from the sea-beach, 6 larger scales of gold were obtained. From the material of which the cliff is composed it seems possible that these sands are derived from a granite district.

Messrs. HARRINGTON, HORAN, and Co. (Liverpool, June 1).—We are without any advice of Chile copper charters for the first part of this month, but the same are expected to be moderate, owing to receipt of cablegrams from the West Coast advising high freights and very small quantity of disposable tonnage. Chile bars have been very steady throughout the past fortnight, and a fair business has been effected at 59*l.* to 60*l.* 5*s.* according to prompt and brand. Sellers of spot good ordinary brands are rather scarce, and market closes firm with buyers at 55*l.* 10*s.* The sale of furnace material comprised about 700 tons Newfoundland ore to arrive here at 11*s.* 3d., and 1000 tons at 11*s.* 4d.; 150 tons Mexican ore here at 11*s.* 3d.; 130 tons English precipitate at 12*s.* to 12*s.* 1d., and 200 tons Rio Tinto at 12*s.* 1d. per unit. There has been no Swansea sale during the past fortnight. Import of Chile copper during the past fortnight 1340 tons fine, against 1821 tons fine same time last year. Delivey during the past fortnight 1272 tons fine, against 2424 tons fine same time last year. Arrivals here during the fortnight of West Coast, S.A., produce: Immacina, from Valparaiso, 84 tons bars; Serena, from Valparaiso, 234 tons regulus, 320 tons bars, 130 tons ingots. At Swansea: Maxima, from Guayanacan and Tongoy, 760 tons bars. Stocks of Copper (Chilian and Bolivian) in first and second hands, likely to be available, we estimate at—

	Ores.	Regulus.	Bars.	Ingots.	Barilla.
Liverpool	—	63	17,926	450	—
Swansea	—	3,035	10,982	—	—
Total	—	3,100	28,908	450	—

Representing about 30,753 tons fine copper, against 30,685 tons May 31; 31,207 tons June 15, 1880; 29,313 tons June 14, 1879; 20,026 tons June 14, 1878. Stock of copper contained in other foreign ore and Spanish precipitate, 2321 tons fine, against 3534 tons June 15, 1880. Stock of Chile bars and ingots in Havre, 3342 tons fine, against 4485 tons June 15, 1880. Stock of Coro Coro barilla in Havre 325 tons fine, against 73 tons June 15, 1880. Stock of copper other than Chile in Havre, 1015 tons fine, against 670 tons June 15, 1880. Stock of Chile copper adit and chartered for to date, 10,800 tons fine, against 15,000 tons June 15, 1880. Stock of foreign copper in London, chiefly Australian, 9541 tons fine, against 6164 tons June 15, 1880. According to the Board of Trade Returns the total imports and exports into and from this country for the first five months of the following years were:—

	1879.	1880.	1881.
IMPORTS.			
Copper in ores	3,523	5,156	3,953
Copper regulus and precipitate	10,317	11,722	11,585
Bars, cakes, and ingots	19,082	16,609	10,992
In pyrites (estimated)	5,077	7,882	5,803
Total	38,004	40,669	32,334
EXPORTS.			
English copper, wrought and unwrt.	12,282	11,895	13,237
Foreign copper, unwrought	5,809	6,608	4,575
Yellow metal	7,040	6,158	6,170
Total	25,131	24,659	24,022

Messrs. PIXLEY and ABELL.—GOLD: With the exception of a withdrawal of 200,000*l.* sovereigns, for Lisbon, the demand for export has continued dull. The bank has therefore, received the bulk of the imports, the amount sent in, since our circular of the 16th inst., being 140,000*l.*. The Liguria has brought 146,000*l.* from Australia.—SILVER: The market has slightly improved in value, owing to an increased demand for the Indian bazars, and the limited amounts of fine bars on offer on the 17th and 18th inst.; 51*d.* per ounce was all that could be obtained for the bars that were then to be sold, including those brought by the Chile steamer. At the close of last week 51½*d.* was paid for small amounts, and to-day 51¼*d.* may be considered as the nearest quotation. The arrivals comprise 24,000*l.* from the Pacific, 30,000*l.* per Shannon, 49,000*l.* from New York; Total, 103,000*l.*. The P. and O. steamer takes 45,000*l.* to India.

LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
June 23—Van	—	33½	£10 17 6	Walker, Parker, & Co.
— ditto	—	13	10 17 6	Adam Eytton.
— ditto	—	80	11 1 6	— ditto
— ditto	—	20	10 17 6	— ditto
— ditto	—	33½	10 17 6	— ditto
— ditto	—	20	10 17 6	— ditto
24—Minera	—	50	10 5 6	— ditto
— ditto	—	50	10 5 6	— ditto
— ditto	—	50	10 5 6	— ditto
— ditto	—	50	10 0 0	— ditto
— ditto	—	20	10 0 0	— ditto

BLLENDE.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
June 23—Van	—	100	£2 5 3	Kenrick and Son.
— ditto	—	100	3 18 0	Dilwyn and Co.
— ditto	—	44	3 18 0	— ditto
— ditto	—	70	3 6 0	Pasco, Grenfell, & Co.
— ditto	—	70	3 6 0	— ditto
— ditto	—	89	3 10 0	Dilwyn and Co.
— ditto	—	80	3 10 0	— ditto
— ditto	—	26	3 5 0	— ditto

WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS
MINEOWNERS, STOCK AND SHARE DEALERS, &c
1. ST MICHAEL'S ALLEY, CORNHILL, LONDON.

The standard for copper ore is the term given by the smelters to denote the price of a ton of metal in the ore. Thus 100 tons of ore of 6 per cent. produce would give 6 tons of metal, and this at 60*l.* per ton should be worth 360*l.*; but the returning charges—that is the equivalent for the expense of turning the ore into metal—are very high, and are always deducted by the smelter before he bids for the ore. One reason for the standard declining at the eastern sale is the low quality of the majority of the ores; and, again, the extra carriage is also deducted. If copper is at what is termed "10*s.* per unit,"—that is per "one of produce"—the price of ore is easily calculated. Thus ore of 8 per cent. produce, at 10*s.* per unit, or 1 of produce, would bring 4*l.* per ton.

The better, therefore, copper ore is the pressed the better price will be got, and the less carriage there will be to pay.

The best and fullest work on the Cost Book was that of Mr. Thos. Tapping, of the Middle Temple, Barrister at Law, published in 1851. It was a prize work, having gained 20 guineas offered through the *Mining Journal* for the best paper on the Cost Book System in general, in 1853. The jurors for awarding this prize were Sir R. P. Collier, Mr. C. Hancock, Mr. J. H. Murchison, J. Y. Watson, F.G.S.

About 1784 the Parys Mines produced 3000 tons of copper annually. Copper was then over 100*l.* per ton, making the return of this mine over 300,000*l.* a year. About that time as much as the whole of Cornwall was producing.

Gossan, always looked upon as a good indication in the backs of lodes, is clay, mixed with silica and oxide of iron. This gets more mineralised as it gets deeper, and generally results in a good course of ore.

About 100 years ago there was a shoal or rock out at sea 720 ft. from the beach at high water at Mount's Bay, Penzance. This rock was covered by the sea about 10 months in the year, and there was sometimes 19 ft. of water upon it. And it was upon this rock that a poor miner of Breage—one Thomas Curtis—began mining in 1778. Altogether it was a most extraordinary attempt, and the "Wherry Mine," as it was called, was fully described in Mr. Watson's "Compendium of British Mining." Veins of tin had been discovered in an elvan course running in front of Penzance, and to work them the old miner provided a water-tight case on the rock, against which the sea broke while he was sinking his shaft. A communication was made with the mine by means of a wooden frame. Three summers were consumed in sinking the shaft, and innumerable trials and difficulties had to be overcome. After about 600*l.* worth of tin had been raised, and the nature of the lode seen, a steam-engine was erected on the green opposite, and hanging-rods from it carried along the wooden bridge to the mine. In this way 70,000*l.* worth of tin ore was raised, and then in the height of its prosperity the mine was destroyed by an American vessel which broke from its anchorage in Gwavas Lake, and striking against the stage on the rock demolished it, and the machinery.

St. Michael's Mount, now surrounded by the sea, was formerly enclosed by a very thick wood, and called in Cornish "Caraclowse in Cowse"—the *haure rock in the wood*. And it is supposed that by a convulsion of Nature some 800 years ago the submersion of the wood and adjoining land took place, and this may account for the veins of tin.

Mr. F. Braby, one of the large shareholders in D'Erresby Mountain, has just visited the mine, and under date of 21st writes us:—"I have seen to-day some splendid galena brought out of the No. 6 level at D'Erresby Mountain Mine. This is from the heading side, or foot-wall. There is continual improvement here, and Capt. Sandoe assures me that he has never seen the bottom end look so promising as now."

At Aberllyn the same gentleman writes:—"They are getting more blende, and of somewhat higher quality; some carbonate may be here and there seen with the sulphide."

An important discovery has been made at Wheal Crebor, one that may double the value of the property. The rich Bridge lode of Bedford United has been cut in the north part of the sett, and fine spots of rich quality copper ore are found in the spar. This matter will be brought forward and fully discussed at the meeting on July 5, when we fully expect a dividend of 2*s.* 6*d.* per share.

Under date 23rd Mr. Braby, one of the directors, writes us from Carnarvon Copper Mine, having been underground there. He says there are "considerable reserves laid open that can be worked as soon as ventilation has been secured by holeing from the sump at the 80 to the 90 level." And this will not take long, as when he was in the 90 and he could plainly hear the men working in the sump. From the 90 end Mr. Braby broke ore of at least 15 per cent. produce, and the floor of the level "is resplendent with sulphuret of copper." We have often explained to our readers that Carnarvon was not a mere ordinary mining speculation, but a property upon which a large sum of money had to be spent to arrive at a certain and well known result. The rich sump at the 80 was in a fine course of ore when it was flooded, and to sink a new shaft from surface and drain the 90 level to unwater and ventilate it has cost at least 12,000*l.* and several years' work. We hope soon to be rewarded both for patience and outlay.

We have this week received several letters and enclosures from Tyn-y-fon shareholders asking our advice in regard to some proposed exchange or arrangement. We are not, however, sufficiently acquainted with all the circumstances to advise publicly.

Can any one inform us if there is a good market for manganese, and at what price?

In about a fortnight we hope to reach an important point at East Blue Hills.

From Mr. J. B. REYNOLDS.—Extreme quietude has characterised the mining market this week, notwithstanding the advanced price of tin, and the prospects of further advance. It is difficult to find a reason for this state of matters, unless it be that the unmeasured and virulent attacks which have been made on the new Cornish limited liability concerns have had a prejudicial influence, and although we are in no way connected with any of the new limited companies that have been floated during the last eight months, we cannot help expressing regret that the condemnation should have been so strong and universal, not only in mining circles, but on the part of those who are utterly incompetent to give any opinion whatsoever on matters of this nature. Some articles, indeed, have been so biased as to give the reader the impression that the authors must have some interested motive in the production of their one-sided statements. We do not question that promoters, who have charged so heavily for gold and Cornish properties, may have made a very serious mistake, but to assume that the properties taken up in Cornwall have been thoroughly tested and worked out is an assumption as unfair as it is preposterous.

Of East Wheal Rose, at any rate, we happen to have some knowledge, and it is our belief, provided the management of this mine is on economical principles, and that the shareholders' money is spent in the development of the property, that the mine has before it a prosperous career. This statement is a purely disinterested one, and may be taken for what it is worth; but whether economy has ever been known to be practised under Limited Liability Act is another matter. In giving this opinion, however, we do not refer to the company or to its constitution, but merely to the mine itself. There may be other properties equally promising, and probably, if the attacks upon them are continued, it will only serve to bring out more prominently their merits. Fair play is a jewel, and we think it time that the violent attacks which are made on mines should at any rate be met, and that those engaged in the prosecution of this all-important industry should stand their ground.

In the early part of the week West Kitty shares remained firm, with but little inclination on the part of buyers to advance their limits. Towards the close, however, greater stringency is observable, with a tendency on the part of buyers to make more liberal offers.

East Pold has been unduly influenced by interested and adverse reports respecting the mine, reports to which, on the highest authority, I can give the most unqualified denial; and there is no reason to suspect any changes here beyond those common to all mines.

West Pold has remained very stationary in the early part of the week, with scarcely any enquiry, but now the demand appears to have sprung up, and shares have changed hands at as high as 30*s.* each. This is said to be one of the

finest sets in Cornwall, and is considered by good authorities not to be second to West Kitty itself; but whether this sanguine view is justified or not events in the future will prove. The property is magnificently situated, and we have not the slightest hesitation in saying that the shares should be bought.

West Pevor are said to be good to purchase even at the handsome market value of the shares at the present moment, and it is earnestly to be desired that this mine may even exceed the expectations formed of it by its largest shareholders. The success of Wheal Pevor casts a great lustre on mining enterprise, as does also the success of any legitimate undertaking, and this being so, the prospects of Wheal Agar are hailed with unqualified satisfaction. It is also pleasing to note the improving prospects at South Frances, and probably Capt. Crase will take his place amongst the most successful mine managers of the day.

There are strong indications that the upward movement in Cook's Kitchen is justified by facts—one, not the least noteworthy, being a violent attack made by an anonymous writer in the West Briton a few days ago. Such onslaughts by anonymous writers are generally the forerunners of success, and shareholders should never, therefore, be guided by adverse criticism, which is so manifestly unfair.

The St. Just district does not seem to be attracting that attention which one would desire, and the same may be said in a great measure of the St. Agnes district, but the immediate future of the latter is secured we have no hesitation in saying by the position West Kitty is taking, and by the prospects of New Kitty and West Poldreen.

In New Kitty we have another striking instance of the apathy of investors. It reminds us very forcibly of the state of affairs in West Kitty some 18 months ago, when no one would look at the shares at 30*s.* each. We shall not be surprised to see an advance in New Kitty of cent. per cent. or more, and that shortly, and there appear to be some whose residences are not far from the mine who are waking up to the conviction. It is also rumoured nearly all the buying orders for West Kitty are coming from Cornwall, but we cannot vouch for the accuracy of this report. We have no doubt whatever that the future of Cornish mining will be better than the past has ever been. Everything points to this conclusion. At present, for the reasons set forth in the beginning of this article, the progress of prices have been momentarily checked, but the check is only temporary, and will be succeeded by a rebound.

REPORT FROM CORNWALL.

June 23.—Our anticipations have at length been fulfilled, and Midsummer sees the prospects of tin mining advanced to a position that three months ago might indeed appear deserved, but hardly looked probable. There is no reason now in the nature of things why we should see any backward movement, at least of consequence, but why the remainder of 1881 should not witness the somewhat further improvement and consolidation of the position already attained. We are not sanguine of a much larger advance, nor indeed do we think it desirable. If the figure advances to 100*l.* it will yield a satisfactory profit to all the mines that are worth working under existing conditions; if it goes beyond that we shall be sure to have increased foreign competition and reaction, and rather than run that risk it would be better to stay where we are.

And there is another danger which is more pressing and serious—the danger of the over multiplication of mines, which if they all turned out well would be certain to reduce prices by stimulating production, and again increasing the supply above the demand; and the danger of the discredit some of them at least are certain to throw upon wise and legitimate mining by their haphazard and doubtful character. It is no use to shut our eyes to facts which are already becoming apparent to outsiders, who are only too apt from past experience to give Cornish mining in gross a bad name, which does not belong to it, and those who are really interested in the continued welfare of our great industry should do their utmost to discountenance such things as these. The bane of Cornish mining has long consisted not in the action of its true friends and consistent supporters, but in the proceedings of what may be called its hangers-on. Cornwall needs outside capital, and no small amount either, to develop its mineral resources, and can offer fair prospects of return, but its chances of obtaining what it wants are materially damaged by any line of action which brings it into discredit with outsiders. Because capital just now is plentiful, and there is a want of means of investment, people are not a whit the more inclined to throw it away, and, sooner or later, they are sure to resent being misled. It is really in the interest of the mining community at large that this should not be. Legitimate mining is as fair and as sound an investing speculation as any other industry, but there is need of distinguishing between the true and the false.

We hail with pleasure any step that may be taken for the improvement of the present systems of sale and of smelting of tin and of copper; but we confess we despair, so far as tin is concerned, of seeing any gain from the multiplication of new smelters on the old plan. What advantage has anyone derived from the last movement in that direction? Let the mines smelt their own tin, and the problem is solved; or if a company must be formed let it be a company for smelting only—that shall turn the black tin into metal at a fixed rate of charges, and hand it back to the mines for disposal. That might do some good; and for copper smelting, except in the case of very large concerns indeed, appears the only way. It certainly is feasible, and it distinguishes two branches of business that have no essential connection—smelting and selling. It is the combination of the two that gives the smelters their advantage.

There is a paragraph in the new report of the Metalliferous Mines Inspectors which we very much regret to see—that in which Dr. Foster complains that the fines inflicted for offences against the Act are in most cases inadequate, and traces the cause to the fact that the magistrates in the mining districts are largely interested, either as lords or as adventurers, in mining enterprise. It is not a pleasant idea by any means, and we all know that "Caesar's wife should be above even suspicion"—so that the misfortune lies almost as much in the suggestion being possible as in its being proven. But what is to be done? Where in the mining areas shall we find any large number of magistrates that are not in some way or other associated with mining; and if they do not act, who can? Probably the effect in some localities would be to throw these cases into the hands of clerical magistrates—a still worse evil, since these gentlemen, with the very best intentions, are, as a rule, the very worst men of business and action in existence.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

June 23.—The coal trade continues languid, whether furnace or forge sorts are spoken of. Some of the colliery proprietors are again beginning to agitate in private for the bringing about, if possible, of a return to nine hours as a working collier's day instead of the eight hours, which have so long prevailed; but the movement has not yet taken any definite shape. Pig-iron looks rather more healthy this week. An advance of 2*s.* 6*d.* per ton was this afternoon asked in Birmingham by some agents of Northampton and Derbyshire makers. Native part-mine pigs varied between 2*l.* 5*s.* and 2*l.* 12*s.* 6*d.* per ton; and cinder pigs ranged from 2*l.* to 1*l.* 15*s.* Some native all-mine hot-blast pigs were to be had at 3*l.* per ton, but superior sorts were 2*s.* 6*d.* to 5*s.* per ton higher. Plates are dull at 8*l.* to 9*l.* and 9*l.* 10*s.*, according to quality. Bars of the best sorts are comparatively inactive at 7*l.* Common sorts are 6*l.* and under. A capital demand is maintained for sheets for galvanising and working-up purposes, and makers are firmer in their prices. Hoops are selling well at 6*l.* 10*s.* to 7*l.* at the works.

The lock-out at the collieries of Messrs. Bagnall and Sons (Limited), and of Messrs. Mellor and Cox at Bentley, which arose out of the refusal of the men to assist their employers in meeting increased Mines Drainage rates by accepting a reduction of 1*d.* per day, is now at an end. An arrangement has been made for the resumption of work on the old terms.

A Court of Mines Drainage Commissioners and Arbitrators met last Saturday in Wolverhampton to hear appeals against a draft award for a mines drainage rate in the newly defined Tipton district. The rate proposed was the maximum allowed by the Acts—3*d.* per ton on fireclay and limestone, 9*d.* on ironstone, and 6*d.* on coal and slack. There were a large number of appellants, the chief of whom were Messrs. H. and G. Ward, the Patent Shaft and Axletree Company, and Messrs. Phillip Williams and Sons. The first obtained no relief; the second a remission of one-third as to their Millfields Colliery, and a case for a superior court as to whether their Mounts Colliery was not entitled to total exemption; and the last named appellant obtained a remission of one-third also.

Ironmasters are complaining of a revised scale of charges for the carriage of iron and minerals that has just been issued by the North Staffordshire Railway Company. The company base their charges on a short-weight ton of 2240 lbs., instead of as heretofore on a long-weight ton of 2400 lbs. By this revision there net increase of

2*d.* per ton. On pottery-mine the new rate is 3*s.* 8*d.* per ton carried in owners' trucks, and 4*s.* 6*d.* in the company's trucks, for delivery in South Staffordshire.

TRADE OF THE TYNE AND WEAR.

June 22.—The steam collieries have gone on regularly during the week, the supply of tonnage is good, many vessels previously chartered for the Baltic are due, and the prospects for the next few weeks are satisfactory. The June coal shipments are nearly equal to average years. Durham second-class coal is in only moderate demand, owing to dullness at ironworks. Contracts for blast furnace coke for the next half year are being made at slightly lower prices than at Christmas. Work will be suspended at Seaham on Saturday and the horses drawn to bank preparatory to opening the long closed Maudlin seam. The bodies remaining from the September explosion will be recovered if possible. The Durham coal and coke trades are dull; the output has evidently been raised too high for the requirements, and without immediate improvements many second-class pits will be closed during the summer. One of the Wearside Iron Company's collieries at Tudhoe will be closed immediately, a band having deteriorated the seam. The make of iron in Durham and Cleveland is to be reduced by 1000 tons per week.

The production of pig iron in the district embracing Cleveland and Durham during the half-year now drawing to a close will be officially declared in about ten days to be over 1,350,000 tons, which is about one hundred thousand tons in excess of that of any previous half year, and is, moreover, the production of 120 blast furnaces. This is unparalleled in the history of the iron trade.

The iron trade has not been quite so dull as last week, and a slight rise has been effected; sellers on Monday were quoting an advance of 6*d.* per ton on the previous week. The change of prices in Scotland is believed to be caused by speculators. The view is also held that the Cleveland trade at present is unpromising; buyers, therefore, only purchase for immediate wants. Offers are made to purchase forward for four months at 37*s.* No. 3, but sellers will not commit themselves to that period, and only a limited business is done in consequence. The make of iron is likely to be reduced soon. It is proposed to turn the Bishop Auckland Ironworks into a limited company. Shipments are going on freely to Scotland, and an increased demand is expected from America. There has been a better enquiry for manufactured iron, but the demand for plates has only been moderate. The foundry trades are only moderately supplied with orders. Ship-plates are 5*l.* 17*s.* 6*d.*; bars, 5*l.* 7*s.* 6*d.* to 5*l.* 17*s.* 6*d.*; boiler plates and sheets about 7*l.* Pig-iron is quoted 36*s.* 6*d.* No. 3; warrants, 37*s.* 6*d.* No. 3. Messrs. Connal's stocks of warrants are 175,732 tons—an increase of 1097 tons on the week. The coal and coke trade is quiet at Middlesbrough; coke is offered forward on easier terms.

The Tyne Commissioners expect to open Coble Dean Dock—24 acres of water, exclusive of basin and lock, and 3650 ft. deep water quay frontage—next year. Under Mr. Ure, the Commissioners' engineer since 1859, the Tyne has been vastly improved. At that time vessels drawing 20 ft. could only enter and leave at best spring tides. From Shields harbour to Newcastle Quay there is now over 20 ft. at lowest tides; there is 18 ft. for 2½ miles above the swing bridge, and 12 ft. at Blaydon. In 1854 the average tonnage of all vessels trading to the river was 149 tons; in 1880 it was 359 tons. The number of vessels above 500 tons register was 422 in 1863, and 4453 in 1880. The improvements have involved the removal of nearly 1,500,000 tons of rock and earth, and have vastly stimulated the trade of the river.

At the Stephenson Centenary Sir Geo. Elliot took a desponding view of the future of the Tyne, no doubt alluding to the exhaustion of some of the best seams of coal on both sides of the river, but there is still a large quantity of coal, and further important discoveries are possible in the lower seams of East Durham and Northumberland.

The centenary of the birth of George Stephenson was celebrated in Newcastle and district with more than regal honours. It is rarely, indeed, that a resolution to do homage to the memory of a distinguished man is universally acceptable, but throughout the whole proceedings, which culminated in the magnificent spectacle on Thursday, there was not even the faintest note of discord. The arrangements were made by a committee, of which the Mayor of Newcastle was Chairman, and the procession proved to be a great success. The municipal bodies of Tyneside marched in sections, and the workmen at the various factories and collieries naturally formed sections, each of which forming a division, which was headed by bands and banners. The utmost order and decorum prevailed, and all the arrangements were carried out with something like military precision. Various opinions are expressed as to the number of men who attended, but we are inclined to consider that the aggregate amounted to 70,000. The engines exhibited at the North sidings formed a most instructive and beautiful spectacle. The No. 1 engine of Stephenson—a plain, strong, and certainly ingenious machine, which did much work on colliery lines—was, of course, a very marked contrast to the highly finished and powerful engines of the present day, showing not only the immense strides that have been made during the past 50 years in the skill of engineers who design engines, but also in the skill of workmen, who manipulate and carry out those designs in iron and brass in such high perfection. This exhibition on a large scale showed the gradual progress (no doubt there were some missing links) from the first useful machine to the highly finished and beautiful engines of the present day. The exhibition of working models and drawings in the Wood Memorial Hall showed the origin and progress of the locomotive and other engines, and this was certainly an attractive and most instructive spectacle. The meeting on the Town Moor and the banquet in the evening was not attended by many distinguished foreigners, but two representatives of the King of the Belgians were present, and most of the leading men of the district. Lord Ravensworth ought to have been there, as his ancestor had a good deal to do with the construction of Stephenson's first locomotive; he encouraged the rising engineer, and freely provided the necessary funds to carry out his ideas. The King of the Belgians has contributed 500*l.* towards the funds of the proposed Stephenson College.

The enthusiasm which has been called forth by the Stephenson Centenary has caused remarks in some quarters as to the neglect which has been shown to the memory of other great men who have arisen in the district. But if we look at the stupendous results of the genius of this one man, not only in this country but throughout the globe—results which will probably continue while time shall last—this need not excite any surprise. England has only produced one Shakespeare, and it is not probable that another Stephenson will appear. It is held that if Stephenson had not improved the locomotive so as to render it commercially successful this would have been effected by some other man; but this is merely an opinion or speculation. There is no certainty about this; all the professional educated engineers of his time were opposed to him. The locomotive as a means of conveying goods and passengers economically was considered a chimera of the wildest kind. Stephenson's first engine, although worked, was not a commercial success; it did not execute the work cheaper than horses, but he persevered and conquered difficulty after difficulty, constantly making improvements, and when he found that he could improve the engine he set to work to improve the road, remarking in his familiar style, that the "locomotive and the railway were like man and wife." And when he had made considerable progress, the engineers of that day on Tyneside opposed him to the utmost, contending that as the stationary engine was improved by Watt those engines could be successfully applied to haul goods and passengers on improved railways, but that the idea of working locomotives on these lines was utterly impracticable. Then there was the opposition of landowners to the opening out of railways; altogether the difficulties Stephenson had to meet were sufficient to deter any other man from facing them, but his genius and indomitable perseverance ultimately conquered. Had he failed in producing the Rocket for the trial on the Manchester and Liverpool Railway, the locomotive question might have been shelved for an indefinite period.

Mr. Haswell in his lecture on the Rocket, illustrated by working models, in Newcastle on Thursday, very properly described this as the most wonderful engine ever invented; the advance made by

Stephenson in this, as compared with his former engines, is truly marvellous, as it really embodies all the essential features of the mighty engine which has since so vastly improved the mode of travelling, the conveyance of goods and minerals, and played such an important part in the civilisation and advancement of the human race. After the Rocket improvements were comparatively easy, as mechanics were trained, more skilled, improved railways were constructed, and larger and heavier engines were introduced, gradually increasing the speed of locomotion from 20 to 60 miles per hour.

TRADE IN SOUTH WALES.

June 23.—The important works of Messrs. Booker, of Penttyrch and Melingriffith, covering about 865 acres, of which 611 are freehold and 254 leasehold, are to be brought to the hammer on July 13. These works include the making of iron and tin, an ochre works, the raising of coal, &c., and are now sold by order of the Court of Chancery. The history of these important works extends back to the middle of the last century. They have to this day returned immense profits to the Booker-Blakemore family. Some few years ago they were formed with a limited company, but they did not prosper, and were involved in the recent failure of the West of England and South Wales District Bank. There are quantities of minerals situated on the estate, both iron and coal, and ochre is brought up from the earth in an almost perfect condition for the purposes of trade. The country round about is of the most beautiful description, and in the hands of experienced people there is no doubt that the works will again become a good property. The Tredegar Iron and Coal Company have just declared a dividend of 4 per cent., which is considered satisfactory, when we remember that important and expensive undertakings have been carried on during the year, and that upwards of 25,000 tons have been carried forward to next year. Nothing has been done at present at the Cyfarthfa Works, but Mr. Williams, of Middleborough, is actively engaged with other gentlemen in inspecting the place, with a view to a commencement of the projected alterations. According to an opinion expressed by Mr. Joseph, of Tydraw, at a recent meeting of the South Wales Institute, it is probable that the Welsh iron ore trade may again revive, owing to the favourable result of the experiments made in the Thomas and Gilchrist process. This will prove, if true, a wonderful stimulus to the trade of the district. The iron and steel trade is fairly active, and although prices are low the works are kept steadily going. The amount of iron shipped at Cardiff last week was 1850 tons, and 5080 tons at Newport. The patent fuel trade is good at Swansea, and 7255 tons were cleared last week. The coal trade at Cardiff is exceedingly brisk, and prices for forward delivery have an upward tendency. The amount shipped last week was 113,077 tons, and more could have been sent away if proper dock accommodation were supplied. The steam coal trade is constantly expanding, and if facilities for shipping do not go hand in hand the trade will go away to other ports. At Newport 21,922 tons were shipped, while Swansea followed with 11,553 tons. The tin-plate trade shows no improvement, and the present understanding between masters and men is not considered satisfactory. The masters in some instances have proposed arbitration, and in other cases have promised to revise the list of prices. Those who have gone in may yet come out again, and the works may be thus brought to a standstill. A little knowledge of political economy on the part of the men would show that if 6,000,000 boxes represent the annual demand, and 8,250,000 boxes are made, the result must be that prices will continue low. There are, again, numerous small works which can be carried on with limited capital, the owners of which are outside any association, and keep on working irrespective of the state of the market. The best brands are sometimes placed on inferior goods, and this fact helps to give South Wales tin-plates a bad name in the American market. Altogether, the prospects of this industry are by no means healthy.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

June 23.—Lead mining in Derbyshire continues in its usual quiet state, there being nothing new to report, everything being of the usual routine character. A considerable number of lead mines that have been but partially worked are standing, waiting for capitalists to develop them, yet no one appears sufficiently courageous to start them, although some of them are in all probability much better than many that have lately been brought under the public notice as veritable El Dorados. Now, however, that so many new companies have been formed for the development of the mineral treasures at home and abroad, it does appear somewhat singular to find that Derbyshire has been overlooked. Without looking at the abandoned mines, there are many now being worked in a comparatively primitive manner, that would well repay the outlay of capital for engines and machinery; for experience has abundantly proved that lead mines can only be profitably worked by means of the best appliances for minimising manual labour. In Derbyshire, however, many of the mines are in the possession of working miners, who have no capital but their hands, and human machinery stands no chance with the mechanical. Still the stores of lead remain, and may before long be developed to a much greater extent than they have been for a long time, whilst it is the opinion of many practical men that Derbyshire offers a good field for investment, so far as lead is concerned.

The demand for house coal has fallen off considerably of late, but the comparatively short distance from Derbyshire to London, as compared with other colliery centres, causes a steady business to be done with the Metropolis, more especially from Clay Cross, Eckington, Langley Mill, Blackwell, Grassmoor, and Staveley. Several of the leading companies have their own depots and offices in London, and so sell direct to the consumers, so that there is no intermediate profit. Were this course pursued by colliery owners generally both them and the purchasers would be benefited—the one by a fair profit, and the other by paying a lower price. But so long as merchants have all the power, and are able to fix the price at which coal shall be sold, the owners of pits will have to sell their produce at little or no profit and the miners will have to be content with very low wages. Hard coal goes off better than it did, but still the demand is scarcely equal to what it should be at the present time, which is generally considered the busiest period of the year for steam coal. The furnaces consume about an average quantity, and rather more is required by railway companies for locomotives. Not so much gas coal is required just now, but a tolerably fair business is being done in engine fuel for some of the manufacturing districts in Lancashire. A considerable tonnage of coke is now being turned out, and meets with a rather ready sale.

In Sheffield most of the works are doing well, and in but few branches are there any complaints as to slackness. Steel material appears to be in the most request, and the production of both Bessemer and crucible is large. A good deal is now being absorbed at the two great work, the Atlas and Cyclops, for armour-plates for the Admiralty. The mills running on ordinary ship and boiler plates, sheets, and wire are all well employed. Bessemer rails are as active as ever, but the prices at which the contracts have to be taken are particularly low, whilst there is the disadvantage of a heavy railway rate to ports for shipment. The cutlery houses are doing well, large consignments going to America, Australia, &c.

REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

June 23.—I have a pretty good eye for mountains myself, and I am fairly well acquainted with the hills of Cardiganshire, but I confess that I do not know the peculiar features constituting what "Traveller" in last week's Journal describes as their "lode bearing aspect." Is it asking too much to request him to describe these features to the readers of the Journal? Of course we all know that the general run of the strata of the county from the north-east to the south-west, and that the rolls or undulations of the strata are generally speaking at right angles to this direction. But what is desirable for us to know is what this has to do with the occurrence of productive lodes of metalliferous minerals. Also what are the differences in aspect between the hills along the productive metal-

liferous zones of the county and those which lie between these and which are barren?

The paper by Mr. Walter Keeping, M.A., F.G.S., formerly of the University College of Wales, Aberystwith, and now lecturer on Geology in the University of Cambridge, on the Geology of Central Wales, to which I have before referred, appears in the new number of the "Journal of the Geological Society." The paper shows a large amount of painstaking research, but I repeat now what I said at the time the paper was read, that the author has misread the Stratigraphy of Cardiganshire. To place the metalliferous strata of the county among the Llandovery beds is to place them where no productive lead mines are worked in Great Britain; indeed, I may say in the world. Mr. Keeping relies a good deal upon fossil evidence in doing this. Fossil evidence is well in its way, but it cannot be taken apart from stratigraphical sequence. But the fossil evidence does not help Mr. Keeping. Take the Crinidea, he has found nothing peculiar to the Llandovery beds. So with Trilobites and Mollusca. He has not found any organisms of the three groups named which are not found in abundance and in beautiful preservation among the Llandovery strata of the Shropshire mining district. Nor will it do for him to rely upon the Graptolites. The fact that Mr. Sopwith, whose personal researches are chiefly confined to the Silurian strata of Scotland, has only found the eight graptolites he particularises in what he considers the Scotch equivalent of the great Llandovery group of Wales is no proof that these fossils have not a larger vertical range. Indeed, if it can be proved stratigraphically that the metalliferous strata of Cardiganshire are of Llandovery age that is older by two great series of rocks than where Mr. Keeping would place them. It follows as a natural consequence that these fossils have a wider range through time than is inferred from Mr. Sopwith's researches among this group of organisms. And it can be proved stratigraphically that the metalliferous rocks of Cardigan do belong to this older group, and therefore harmonise, so to speak, with the lead-bearing strata of the older rocks all over Wales and Shropshire. For example, the rolls and undulations of the strata in Cardiganshire are prolonged into Merionethshire and north-west through Wales, and a very little observation will show that it is in the prolongation of the Llandovery beds south-westward that the lead ore deposits occur, and that in the troughs between these ridges, which are filled with the newer strata of the Bala, Llandovery, and taking West Montgomeryshire into account, Wenlock groups, we have the barren or non-metalliferous zones of the county. This is all so plain to me from long observation and research, that I am tempted to think that there is no need for me to write thus for my readers, the consequences, however, of a wrong reading of the strata may be so serious commercially, perhaps more than scientifically, that I may be excused for enlarging on the subject. I would not myself, nor would I like any one else that I cared for, to go floundering in Llandovery strata, either in Cardiganshire or elsewhere, after lead ore.

FOREIGN MINES.

ST. JOHN DEL REY.—Telegram from Morro Velho, dated Rio de Janeiro, June 22: Produce, twelve days, first division of June, 12,000 oits.; value, 46501.; yield, 5.8 oits. per ton. Profit for the month of May, 23007.

POISO.—Gold on hand first fortnight 400 to 500 ozs. Ample supply of water; equipment for ten days of 24 hours full work.

ALMADA AND TERTIO CONSOLIDATED.—Telegram from Mr. Clemes: June 22: Profit for April, 83600.

DON PEDRO.—Mr. Treverton writes under date May 28: Steam-engine, &c.: Being idle for convenience of dropping lift in No. 1 inclined shaft, I have myself of the stoppage to examine all valves and obtaining some help; packed both plungers with same instead of cotton, which on being put to work proved to answer much better than the cotton packing, at the same time put in all new packings in valve of hydraulic. At the present time engine working pretty well, and with both lifts working fairly.

RICHMOND CONSOLIDATED.—R. Richard, June 1: There is nothing to report from the mine or any other department, as the works were closed down for repairs on Monday last.

NEW QUEBRADA.—Month of April: Despatch from mines to Tacuana, 961 tons, 11-18 per cent. dry; despatch from mines to roasting floors 422 tons, 7-78 per cent. dry; total output 1383 tons, home arrivals 1841 tons, stock 463 tons (average price per unit 12s.), quantity afloat on April 30 1863 tons, sales at the mines on April 30 2070 tons, stock of ore on wharf at Tacuana on April 30 5935 tons.

PHILLIP AND CO. CONSOLIDATED.—The directors have received advices, dated May 7, giving the results of the operations for the month of April:—Four weeks' return ending April 20: Quantity of quartz crushed on company's account, 399 tons; pyrites treated, 25 tons; total gold obtained, including extra cleaning, 207 ozs. 3 dwts.; yield per ton on the half-year quartz gold, 1 dwt. 2 grs.; quantity of quartz crushed on tributers' account, 3333 tons; total gold obtained from tributers' quartz, 775 ozs. 18 dwts. 12 grs.; yield per ton of tributers' quartz, 4 dwts. 15 grs. Receipts, including 16927, 0s. 3d. obtained from tributers, 25512, 19s. 3d.; payments, including 2884, 10s. paid for firewood, 18767, 17s. 6d.; profit, 8752, 1s. 7d.; balance brought forward from last month, 17792, 6s. 6d.; available balance, 24532, 8s. 1d. Amount divided between the Port Phillip and the Clunes Companies was 9007.; the Port Phillip Company's proportion, 12-20ths, was 5552.; balance carried forward to next month's account, 15537, 8s. 1d. Remittance, 6007.

PLACERVILLE.—Isaac Thomas, May 28: The drift running north from the cross-cut in the 600 ft. station has been driven 5 ft., making a total distance of 22 ft. The main shaft has been sunk 7 ft., making a total depth of 669 ft. The winze from the 5th level has been sunk 1 ft., making a total depth of 56 ft.

GOLD COAST.—The manager's report, May 10, is as follows:—Health of all good. North Tunnel: We have cut the outer wall of the lode here, and are now 1 ft. through it. Owing to the extreme hardness of the rock, which is identical with that at the Effluent Mine, it will be some 10 or 14 days before we get to the gold bearing part of the lode. The north shaft has been squared off and secured with timber. A shaft has been built over the mouth, and a windlass is being erected to-day. Sawpit Drift: A level has been turned in here from the lift towards the south on the lode, and is now in 17 ft. We hope to find the lode get more solid as we follow it in under where it was discovered in the pit above. South Shaft: This is now down 57 ft. Some stone taken from the bottom gave a good trace of gold. We expect to cut the lode here also in a few days, and it proved to be rich (we may of course have to drive on it a little to do so) I shall put all our force on the south tunnel and get that through to the lode. The two ends of the property will thus be proved at once.

Tele. from Madeira: North lode opened, and the ore showed a value of 30s. to 40s. of gold per ton of ore.

RUBY AND DUNDERBERG CONSOLIDATED.—Report on the mines for the week ended May 29: Dunderberg: The 700 ft. level has been advanced 18 ft. during the week; total, 435 ft. from the shaft; the ground is very changeable—the present one is in favourable ground for prospecting, the water in this level has decreased about two-thirds in the last 10 days. We are using more water now on account of the extra hoisting, as you will see by the number of tons shipped during the week, consequently, we are compelled to haul water again. The No. 2 winze has been sunk 9 ft. during the week; total, 151 ft. below the 600. There is a decided improvement in the No. 1 ore body about 35 ft. above the 600, which is now making down last of the 600, consequently, a cross-cut has been run last—23 ft. from the 600, at a point 40 ft. south of No. 2 winze, and the ore body found to be about 4 ft. wide extra good quality. No. 5 ore body has not been found, but is expected, but it still looks very well and producing considerable ore. The 600 shaft has been advanced 11 ft. during the week; total, 22 ft. past No. 5 winze; a bunch of ore about 6 ft. wide, and 8 ft. long was passed through during the week. The present end is in favourable looking ground, containing a little ore. No. 3 ore body has improved during the week; the ore is from 2 to 4 ft. wide, and about 12 ft. long, and a better quality than heretofore. There is no change in No. 4 since my last. A drift has been commenced to-day from the 350 west cross-cut to intersect No. 4 ore body. The 300 west cross-cut still continues in hard ground; progress this week, 5 ft.; total, 527 ft. This cross-cut will be discontinued until connection is made with No. 4 ore body, on account of ventilation. Have shipped 178 tons of ore this week, and have 43 men at work besides tributers.—Bullwhacker: The ore in rise above the 325 contains about 3 ft. wide. The south drift from the south-east cross-cut has been advanced 24 ft. during the week; this drift is in very promising looking ground containing low grade ore and iron with occasional bunches of good ore; the vein at this point appears to be quite large, we have already ascertained it to be 8 ft. wide. We are now cross-cutting west to find the footwall. Have shipped 16 tons of ore this week, and have 10 men at work.

June 21: Copy of telegram received from Eureka to-day:—The week's run from the furnace was 313,500, from 215 tons of ore, producing 42 tons of base bullion. The shipments of the week were 277 tons.

CANADIAN COPPER.—Fraser Bennett, June 10: There has been no important change in the general appearance of these mines since my report to you of the 3rd inst., with the exception of an improvement in the vein in the rise above the back of the 10, east of No. 7 shaft, at the Hartford Mine; and as this, although called the 10, measures much more in the inclination of the vein (probably 15 fms.), and is at the foot of a hill of some altitude, I have strong reasons to expect to open up some good stopping ground at this point, more especially as it goes back over the ore ground of the deeper levels. The 40 is not quite so good in the present end; but this being a segregated vein, I think there is more vein north than we carry in the drift. The 50, east of No. 7 shaft, still yields good ore. The vein in the 85, east of No. 7 shaft, is wider than seen in the drift (5 ft.), and the ore is of good quality. The vein in the stopes throughout the mine realise the expectations formed from the appearance of the vein driven on in the levels. We are ready with the whim and appliances to haul out the water from No. 1 shaft, and expect a rope daily.

NEW GOLD RUN.—F. M. Chadburn, June 6: Mine: I have been running drift continually since starting on present run (the 23rd ult.), and if water holds out so that I can make the usual run, shall make a good clean up. We have a large amount of clay to contend with, which must be blasted and run off in order to get at gravel; this will make the expense of run more. I think we can run until about the 20th inst. I am running out cuts as clean as possible and am preparing to shovel them.—Mill: At present I am doing no work in the bottom. I have out on dumps about 600 to 800 tons cement, which will be crushed as soon as I can start the mill. The dumps are full and I cannot get out more dirt until mill starts. The mill has not paid thus far, and I cannot make it pay

unless I strike better bottom than anything yet found. It might be well to prospect it by running drift ahead, and also running cross-drifts without attempting to get out enough dirt to keep mill running. There will not be water enough to run the mill during the summer months to any extent. I cannot but think that the lead continues either on the west or east rim, and that all our drifting has been off the main lead, or that a barren streak occurs at this point. The bed rock uncovered was very rich compared with what we have worked in the drift, for which there seems no explanation unless it be a barren streak or a sharp turn in the lead.

FLAVILLA.—R. Gundry, June 2: There is nothing new to report concerning the mine since my last letter to you. The ore has been assorted and sacked, and is being shipped. We have 274 sacks of first class, and 96 sacks of second class. Amount of work done for May is as follows:—Brooks' drift 21 ft. 6 in., and drift in raise 25 ft.

JAVALI.—Extract from G. E. Chambers' letter, May 6: As I have already reported to you the mantle on the north side bids fair to be a great success, and we already bring down about 300 cars monthly to the mill. I beg to hand you the following as my report of the past month's working:—Mine: Very little work was done in the interior of the mine; I had most of the contractors occupied on the surface making ditches, &c., in anticipation of the wet season. Rise No. 2 from Pinn's to Pollock's tunnel was driven 3 vars; the ground continues to be very hard, and of poor quality; 3 vars were driven east under Nispero. The lode is also hard, but bears a thread of soft and very good quality quartz, which bids fair to greatly increase in width as we go on. On the whole 27½ vars were driven in the different interior workings.—Mill and Remittance: Notwithstanding the winter holidays by paying the men extra wages I was able to work the mill 21 days, sometimes with 20 and at others with 23 stamps; the quartz supplied being chiefly mantle, we crushed 2091 tons, which yielded 405½ ozs. gold, making an average of 3 dwts. 21 grs.—much the same as usual. I have now all stamps in perfect order for the wet season, and hope not to have such drawbacks as we had last year. The watercourse I have also had well looked to, and the dam and waste gates strengthened; this month I intend to make an overflow on the place where the breakage was last year, so that when the water rises to a certain height it will pass over the bank through a large board canal, and thus, I think, entirely prevent a repetition of the misfortune such as we had in October last.—Tailings Mill: The framework and foundation blocks for the square stamps are all in their places, and only await the mortar box. Unfortunately, the iron has not yet arrived at San Ubaldo; the dryness of the River San Juan is a great nuisance, and dreadfully delays the arrival of all goods. I have written to the purser and our agents to do their utmost to urge on the landing of the things we especially want. The expenditure was 9750, 13s. 10d., the remittance is also 10000. The heavy items for firewood and timber continue to make our expenses very high.—Health and Labour: Dr. Bird sends his report. Labour is rather scarce, chiefly owing to the festive time of the year. The end of October last I had a visit from the Judge of 1st Instance from Singulpa. Although he came at a most inconvenient time I did my best to keep up the company's good name for hospitality. He made a complete round of the various mines in the neighbourhood, but said that after seeing Javali he wished to go nowhere else. I hope you will agree with me in considering the remittance this month very satisfactory for the time of the year; this month I hope to do better.

SANTA BARBARA.—W. H. Richards, Paris, May 14: During April 1247 tons of mineral were stamped, yielding a produce of 3856 oits. of gold, or equivalent to an average of 3.092 oits. per ton of stone stamped. This produce of 3856 oits. of gold, valued at 8s. 6d. per oit., amounts to 16367, 10s., and the estimated working cost for the month, at Exchange 21½d., being 15867, 15s. 7d., leaves an estimated profit of 1300, 0s. 5d. for April. In explanation of the continued heavy cost for the month—Mr. Richards states, "I regret exceedingly that it is not yet in my power to report much decrease in the amount of cost. There is an exceptional item this month of about 100% for travelling expenses, &c.; provisions are also very dear, about 500,000 Rs. about the ordinary charge, but as we have now fine weather, better roads, and a fair harvest, I hope to see this expenditure reduced to its normal rate. The charge for stores expended is nearly 200% more than it was 12 months since, of this one-half is charged to new works, leaving still a sum of 100% to be charged to mine cost, added to the sum of 1% increase in native labour of about 100%, and the increased costs can be accounted for. I repeat what I wrote on Feb. 14 last, that 'I see no prospect of diminishing them (the costs) until the renewals and repairs which can no longer be deferred can be effected. The shops will I hope be completed or nearly so by the end of this month (May), and a great economy will be effected by having them in the centre of the works and under the immediate inspection of the head mechanic.' Mr. Richards reports that the strikes at mill Nos. 2 and 5 had been widened from 14 to 15 in. in width, and the dressing tables to these stamps increased by 195 sq. ft. in width, respectively, during the month, and a new amalgamation stage completed. In addition to the above mine working, the stamping of 6422, 11s. 5d. was estimated as expended on capital account during April, in respect of the construction of the new watercourse and new hauling machinery. The mine captain (Capt. C. J. Richards) reports as follows for April:—The quantity of ore raised during the month amounted to 1509 tons, of which 294 tons were rejected at the spalling floors as refuse stone, and 1215 tons along with 32 tons over from the previous month, in all 1247 tons, treated at the stamping mills. The average quantity of ore raised per ton for the month amounted to 57 wagon loads, and the number of holes bored per man for the month, 65.

PIASQUI GOLD.—Mr. T. S. Trevelyan, Pitarco, May 9: The produce of the month of April, from the stamping of 463 tons of the residual Ouro Podre stock mineral, and from 329 tons of Jacutinga mineral raised during the month, amounted to 2105 oits. of gold, which, valued at 8s. 6d. per oit., equals the sum of 8947, 12s. 6d.; the estimated cost for the same month at exchange 21½d. (exclusive of 957, 2s. 3d. expended on capital account in respect of shaft for mineral from wash-house to stamps, permanent railroad in 15 in. level, and oilhouse) amounted to 7127, 13s. 7d.; leaving an estimated profit for the month of 1820, 18s. 11d. Mr. Trevelyan states: "We have cleaned out most of the old workings (except in my last letter, but so far nothing has been seen in this the place said to exist therein. We have, however, discovered a body of auriferous vein about 4 fms. long and 3 fms. wide, which, judging from the samples, will probably produce what it is said to have done formerly—3 oits. of gold per ton, and yielding occasionally stuff good enough for boxes. This lode has now been cut in the 15 also, but we have about 3 fms. only of backs upon it, the whole of it above having been worked away. Operations on the San Francisco Antonio vein continue under suspension while explorations are in hand in the Jose Candido section. The side level from the adit was commenced this morning. No vein strike has been received from the mine during the month of April.

PIERREFITE.—June 18: The manager reports as follows:—There is nothing of importance to report from the cross-cut in No. 3 level. The portion of lode being carried with No. 2 end yields 2 tons of lead ore and 3½ tons of blende per fathom. We have commenced cross-cutting the lode in the No. 2 level immediately behind the end, and have driven 2 ft. The lode as far as seen yields 4 tons of lead ore and 4 tons of blende per fathom. The footwall, however, has not been reached yet, therefore the value of the lode cannot be stated. As far as cross-cutting it is very satisfactory. No. 2 stopes, over No. 1 level, yields 7 tons of lead ore and 2 tons of blende per fathom; No. 3, 7 tons of lead ore and 2 tons of blende. No. 2, below No. 1 level, yields 8 tons of lead ore and 4½ tons of blende per fathom. The forking the water from the workings of the 4th level is progressing satisfactorily. 106 tons of ores have been sent down over the cable during the past week, and about 80 tons broken from the stopes, &c.

UNITED MEXICAN.—Mr. E. Hay, May 29: Mine of San Cayetano de la Ovejuna: The number of new workings which have been commenced by the buscones is great. The advance in the canon north-west has been carried on steadily, but as yet no ore has been found, though we have the vein in hand. Last week we had to suspend the driving in consequence of a soft part having come down, and we had, consequently, to timber the place, which is very near the end; the men are now at work again. Since communicating the contratiello of San Florencio with the pozo of San Daniel, or rather with the old winze coming down by the side, and to the north-west of the latter, and which has served us for a new roadway, we have opened out several frentes north-west and south-east, which are all worked by buscones. The frentes of Santa Margarita is the best working in the mine; it is an ¼ vara broad, and of a good ley, and the winze of the same name is in an equally good condition. In the pozo of Santa Elena, and frentes north-west of the same name, the width of the ore is only ¼ vara, but the leys are good. The frentes of San Isidro north-west, has been producing a good deal of ore, but has now somewhat fallen off. However, the ore is still ¼ vara in width, and of a very fair class.

The frentes of San Vicente, S.E., at the level of San Isidro is not as good as the last-named end in the opposite direction. The lode is ½ vara broad instead of one metre as it is in the other points, and the ore is only found on a width of ¼ vara. Also in the pozo of San Isidro the lode appears to be close in, it being only ½ metre broad, and the ore ¼ vara. The contratiello of San Pedro is in the same state as Elena, and frentes north-west of the same name, the width of the ore is only ¼ vara, but the leys are good. The frentes of San Isidro north-west, has been producing a good deal of ore, but has now somewhat fallen off. However, the ore is still ¼ vara in width, and of a very fair class.

The frentes of San Antonio de la Ovejuna.—No change to report in the frentes of San Juan W., the lode being still in quartz, and hard. After having traversed in the cross-cut of the lode a series of small veins (leas of the lode) containing natural, but a small vein of ½ metre broad, and the appearance makes the miners believe that something will soon be found in this section of the mine.

VIRNEBERG COPPER.—R. K. Ruskilley, June 21: Hadley Engine-Shaft: In the 160 metre level, driving south of shaft, there is scarcely any change to remark since our report of the 7th inst. The ground in the 160 cross-cut, west of level, has a very favourable appearance, and we think we are near the lode in this end. The lode in the 140 metre level, north of new cross-cut, is improving in appearance and character; yielding good stones of copper ore. In the end, driving north of shaft, in the 120 metre level, the lode is worth fully 15s. per fathom; the slope is worth 12s. per fathom. The slope in the back of the 120 metre level, south of shaft, is worth 8s. per fathom; this slope is immediately under the shoot of ore driven through in the 100. In the slope in back of the 100, south of shaft, the lode is worth 15s. per fathom. There is no other noteworthy change throughout the mine. We are busily engaged in shipping copper ore at Muhlenweg, and we hope to get the boat off by Saturday next, when bill of lading shall be forwarded.

PESTARENA.—S. Gifford, June 15: Val Toppa: At No. 1 level, on west lode north, the string of quartz has disappeared, and the end is now wholly in sterile schist. No. 1 level south, on new lode, is in disordered ground, but yields a little ore still, whilst the same level north gets into poor quartz, yielding some 6 tons of ore of 5 dwts. per ton per fathom. The slope on Flat lode, under the latter ends, has greatly improved, the ends appearing to increase both in width and thickness; it now yields 8 tons per fathom at 8 dwts. per ton. At No. 2 level south, on the slide, talcose schist prevails without ore, and the cross cut west at the same level continues in stiff quartzite. The winze from intermediate level, on great quartz lode, goes down slowly in hard quartz, with a little pyrites, being worth 10 tons at 5 dwts. per fathom. At No. 2 level south, on the slide, the rock is stiffer, and the end carries more chloritic schist. In the winze, on great quartz lode, under No. 4 level, we seem going down to a workable shoot of ore, and the bottom is now worth 10 tons of 5 dwts. of stiff per fathom. The slopes are yielding lower class ore than usual, and the returns are slightly lower.—Pestarena: The 33 fm. end, north at Peschiera, on No. 1 lode, continues in stiff micaceous rock, with a leader of flookan, and at the 80 fm. end north, where a leader of pyrites lately appeared sterile schist has again intervened. At the 110 south the ore has also nearly disappeared, whilst the ground is harder. In the north little or nothing has been done this month, and consequently, there is no change. The winze for tip-plate under the 110

goes down in stiff mica schist. The shaft sinking under the 110 seems getting into better ground, and signs of the lode coming into the west end increase daily. Slightly easier ground is showing also in the 90 fm. cross-cut west. In the 85 north, on No. 5 lode, no ore has been met with, but it continues in conglomerate rock, carrying flakes of pyrites occasionally. The lode in the rise at the 65, on No. 5, only holds half over the back, and it is now composed wholly of low grade quartz, yielding for all the length of the rise 5 tons per fathom at 5 dwts. The end south at the same level, on No. 2 lode, is now again without lode, with few signs of improvement. In the winze under the 33, on No. 5 lode, there is a stiff lode of quartz, of the same character as seen in the rise, being too low in quality to estimate. There has been a falling off in the yield of several stopes during the past fortnight, and they are mostly poor at present. No. 1 stope, in the 100 south, and the north stope in the 65, on No. 5 lode, being the exceptions, these continuing to give fair quality ore.—Mills: The duty at Pestarena for May was 83.4 per cent., and at Val Toppa 73.5 per cent.

ENGLISH-AUSTRALIAN (Gold).—Mr. Mark Pollard (Fryerstown), May 7: 320 ft. level: This drive has been extended 18 ft. during the past month; total from cross-cut 67 ft. I have slate ground, with four small leaders of quartz. I have removed two men from here to the 70 ft. level at the prospecting shaft to drive west towards the engine-shaft. I think to meet with quartz by driving there.—232 ft. level: I have holed through to the tributary workings, and shall commence to stop the back of this level in a day or two. I have a large body of stone to work from this level if it is payable.—207 ft. level: The ground between No. 1 and No. 2 rise is all but worked out. I have put two of the men who were working here to stop north from No. 1 rise; quartz 3 ft. thick; see gold in them.—280 ft. level: The stopes at this level are looking just the same. This is the best block of stone we have in the mine in sight.—150 ft. level: The stone at this level is looking just the same, and the stopes at the back of this level are improving a little; the eastern run of stone is better than the western run.—210 ft. level: Going east from prospecting shaft have met with the flooken and heaved the quartz up 4 ft. above the back of this drive, so I have put up a rise to them, and am driving on the quartz. We have crushed 827 tons of stone this month; result, 167 ozs. 11½ dwts. retorted gold, which is a decided improvement on the last; and I think I shall be able to give you as good an out-turn next month if all goes well. The machinery is in good order and working well.

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The Mining Market: Prices of Metals, Ores, &c

METAL MARKET—LONDON, JUNE 24, 1881.

IRON.	£ s. d.	£ s. d.	TIN.	£ s. d.	£ s. d.
Pig, 3MB, f.o.b., Clyde..	2 7 1½	2 7 6	English, ingot, f.o.b.,	96 0 0	97 0 0
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* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; 1X 6s. per box more than 10 quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

REMARKS.—There is no marked change to be reported in the state of the metal market. A steady tone has for the most part prevailed, while there has been a pause in the upward tendency of prices recorded during the last few weeks. This, however, can easily be accounted for, and must be considered a boon rather than a drawback to the markets, as it may tend to preserve steadiness in prices, and help to encourage the legitimate demand. *Bona fide* trade, as a rule, does not suddenly improve to any material extent, but its growth is more often than not of a gradual and steady character, and this being so the longer prices are kept moderate the greater stimulus will, probably, be given to the legitimate demand. But it should be remembered that, notwithstanding the existence of a perceptible improvement in the trade just now, the markets are mostly still in a sensitive state to allow of anything approaching an inflation; and, in confirmation of this, reference need only be made to statistics, which for some metals continue to show large stocks, and causes a great probability of heavy sales being effected should prices be much enhanced. It is, however, hoped by some rather than anticipated, that a renewed American demand, such as was witnessed in the autumn of 1879, will be created by the present low range of prices; but, unfortunately, circumstances do not give promise of any speedy revival in the American trade.

Possibly, were prices all round reduced to as low a level as those ruling in the early part of the autumn of 1879, there might be a recovery in the American business, but now that they are mostly above those then current, and on account of similar adverse influences affecting the markets in that as well as in this country—viz., excessive stocks and over-production, especially in iron; and also owing to reports showing that the winter harvests out there were considerably less, and the spring harvests only equal to those of last year, there does not seem very much prospect of any speedy and great revival; but at the same time the fact should not be overlooked that America is a large, rich, and expansive country, one that stands second to none in being foremost in stimulating and encouraging fresh enterprise, a country where new railways are repeatedly being started, and old ones extended, consequently with any chance of any diminution in the supplies, not only would great support be given to the recent slight advance in prices, but also a still further rise might be expected. Fortunately, however, the trade of this country is not solely dependent upon America for its prosperity. There is India, China, Australia, and other parts where large shipments are made, while the trade for home consumption during the first half of the year has been very fair, and it is to be hoped that, with the prevalence of so many favourable influences towards a development in trade, great progress will continue to be made as time proceeds.

COPPER. This market has for the most part been dull, and prices during the last day or two have tended downwards, although holders generally have not shown any disposition to accept any very material reduction. The immediate future of this market seems to be very uncertain, for on the one hand the continued reduced supply from Chili causes holders to anticipate the realisation of better prices, while also should any advance be made in the value of silver, of which there seems some chance, a favourable influence would also doubtless be given to prices, and any improvement which might now occur would thereby receive considerable support. On the other hand, the stock is still very heavy, and operators do not appear inclined to enter into fresh engagements of any magnitude, while shipping business is still very dull, consequently there is little to cause the idea that any rise will be supported by the legitimate demand. Again, there is very little disposition to hold for any length of time by present operators, and it seems more and more evident that were prices to advance there would be considerable pressure

sure to sell, to take profits where practicable, and to cut losses where so satisfied; a result could not be attained. This market is in too depressed a state owing to the heavy stock to permit of any sharp rise in prices, but with quotations being kept low and with a reduced supply this great impediment may, to a considerable extent, be removed, for the low prices would doubtless tend to stimulate the regular demand, and which would necessarily tend to a further reduction in the stock. The enhanced prices of 4 by 4 Indian sheets continues to be a check to any improvement in the demand, and not even an ordinary amount of business is doing. But it seems certain that this state of things cannot continue much longer, so either indentors will have to increase their limits or manufacturers make concessions to make business practicable, and this of the two is decidedly the more probable.

IRON.—This market remains steady, prices for pigs being well sustained, in the hope that the rumoured probable stoppage of some of the furnaces in the Glasgow district will prove correct, as also from the shipments last week comparing remarkably well with those for the corresponding period of last year. A reduction in the stocks just now would be very beneficial to the trade, and a reduced supply appears to be the only way in which that reduction can be effected, for notwithstanding the increased shipments of last week the stock continued to increase, showing that a very great excess would be required in the demand in order to make it above the supply. Should the furnaces anticipated be damped down, and the shipments continue to increase as they have been doing during the past week or two, it is to be hoped that some impression may be made upon the heavy stocks, and it is in anticipation of these results which makes holders firm in their quotations at the present time. It is, however, feared by some that the deliveries for consumption will not be maintained at so good an average as what they have been during the early part of this year, on account of the shipbuilding trade during that time being so very brisk, that it is thought that the immediate requirements for that purpose must be satisfied. The demand for manufactured continues more or less restricted, and prices have undergone little or no alteration. Sheets are, perhaps, still in better request than other descriptions, many of the works, especially those in Staffordshire, being reported well occupied with the orders now in hand.

The Glasgow warrant market has this week been comparatively firm, and at times an extensive business has been transacted. Opening on Monday at 46s. 10d., numerous transactions were recorded up to 47s. 1d. cash, closing at the best, while on Tuesday a good business was carried through up to 47s. 3d., when a reaction set in and prices receded again to 47s., with sellers thereat at the close. On Wednesday the market was fairly steady, the price ranging between 47s. 1d. and 46s. 11d., and yesterday no material change took place, the general quotation being 47s. 1½d., while to-day a good business is reported up to 47s. 6d. The foreign and coastwise shipments last week were 13,537 tons against 9507 tons for the same time of last year, or an increase of 4030 tons, and which makes the total shipments for the whole of this year 252,212 tons against 360,240 tons for the corresponding period of last year, and 245,110 tons for the same time in 1879. The number of furnaces in blast continues at 120, while the visible stock has been increased to 584,332 tons against 562,930 tons for last week, or an increase of 1402 tons. The imports of Middlesbrough pig-iron into Grangemouth last week were 9285 tons, compared with 4340 tons for the same week of last year, or an increase of 4945 tons. An improved tone has been perceptible upon the Middlesbrough market, and higher prices have been realised, while a general restoration of confidence is reported.

There is an increased enquiry for delivery at the end of the year, and an advance of 3d. to 6d. is asked, making the present quotation for No. 3 37s., while 3d. to 1s. is quoted for No. 4. Makers generally seem to anticipate higher prices shortly being realised, therefore sales are not pressed to any particular extent at current rates. There is a better enquiry for warrants, and buyers are offering 37s. 9d. for No. 3. The stock in Connal's yards in this district shows an increase of 762 tons for the week amounting to 175,974 tons. The good shipments which were made at the early part of the month have not been kept up, those last week amounting only to about 17,245 tons. The total exports from Middlesbrough to Scotland during the whole of this year have been 135,466 tons. Some improved deliveries have of late been made to the Baltic, and advices from the Continent give promise of an increased trade. There does not seem much chance of any reduced supply, which is rather unfortunate, as the continued and repeated increase in the stock may be attended with serious results unless some check is made upon the production. Manufactured keeps dull of sale, although a slightly better feeling prevails with regard to the future. Ship plates are quoted at 57. 17s. 6d. to 67s., angles at 57. 7s. 6d., bars at 57. 7s. 6d. to 57. 10s.

A fairly satisfactory report of the state of the trade comes from Wolverhampton, and buyers appear ready to pay an advance of 2s. 6d. for sheets; but as most makers are well occupied with the present orders, not much business is reported. Latens are quoted at 97. 15s., doubles at 57. 10s., and singles at 77. 15s. There is a fair enquiry for hoops, which are selling at 57. 10s. for ordinary qualities and better descriptions at 77. per ton. Pigs are rather stiffer in price, without any appreciable improvement in the demand. The Birmingham market is said to have shown more animation, and prices for all classes of iron are tending upwards. Medium qualities of bars are quoted at an advance of 2s. 6d., while common qualities are firmly held at previous rates. There is a very fair enquiry for sheets and hoops, the latter selling well for export account. A marked improvement is perceptible upon the Sheffield market, a general opinion prevailing that prices have reached their minimum, consequently buyers are less reluctant to pay current rates. There is a considerable business doing in plates, some of the works being reported busily occupied, while a few of the wire mills are busily engaged with current orders. Regular employment is being given at most of the establishments in the Welsh districts, and some large orders for rails are in hand for American account. Quotations for all descriptions continue without change. Advices from New York of the 17th inst. report the market in that country as quiet, and quote No. 1 Garthsherie and Glangarnock at £22.50, Coltness at £23, and Eglinton at £21. Hematites are offering at £21.50, and Cleveland pigs at £17.50. The demand for scrap and old rails is dull, the former offering at £25 and the latter at £26.50.

TIN.—This market has not undergone any very sharp fluctuations during the past week; but the late rise has been fairly surprising, only slight concessions having been made. This is not surprising, for after so sharp a rise, a slight reaction at least must almost have been expected, for prices for tin, in proportion to other metals, are very high; while many holders are desirous of securing their profits at the improved rates, and would be very much to blame if they did not take them, as there appears little or no chance of any further rise yet awhile. Statistics, however, are fairly favourable, which are the chief support to the market; but at the same time it should be remembered that the prices of this metal are much in advance of those for any other, and their maintenance in a great measure depends upon the strength of holders.

LEAD.—This market remains dull and inanimate; prices, however, keep fairly steady in the absence of any satisfactory demand, but if orders were offered at prices slightly under current rates, it seems probable that sellers would be willing to meet buyers in order to effect business, providing of course that the orders were of sufficient magnitude to be worth making a concession upon.

SPELTER.—There is no perceptible improvement in the demand, but prices are stronger, especially for foreign.

STEEL.—This market is almost featureless, a steady demand continuing to exist at previous rates.

TIN-PLATES.—These are still in dull demand, and prices are easy. **QUICKSILVER** is less active, but very firm. The Californian market is strong, consequent on a good demand for shipment.

Throughout the week the **MINING SHARE MARKET** has been more than usually dull. Very little business has been transacted, and there is scarcely any change in prices, which for the most part remain merely nominal. Among the few mines dealt in have been South Frances, Wheal Crebor, Parys, West Kitty, West Caradon, Roman Gravel, Cook's Kitchen, Tankerville, Prince of Wales, and a few others.

TIN.—There has not been any further advance in the standards for tin ore since our last, and tin is rather lower. Towards the close of the market shares became weaker generally. Blue Hills, 2½ to 3½; Carn Brea, 24 to 25; Cook's Kitchen, 16½ to 17½; Dolcoath, 55 to 56; East Lovell, 2 to 2½; East Pool, 37 to 38; East Blue Hills, 10s. to 15s.; South Condurrow, 9½ to 9½; South Frances, 15½ to 15½; Tincroft, 17 to 18; West Bassett, 16 to 16½; West Frances, 13 to 14; West Peever, 15 to 16.

Polrose, ½ to ¾; at the meeting the accounts for four months showed a balance of liabilities over assets of 677. 8s. 2d., and a call of 1s. per share (5007.) was made. It was stated in the report that the 100 east is within 30 fathoms of the great flooken cross-course, against which the great courses of tin were found in Great Vro and Palladras; and the 100 west within 20 fathoms of being under the 90 west, where the Margaret lode had such a promising appearance, the lode having gradually improved to that depth. The clearing up of the ditto also was considered a great point in the mine. New Trumpet, 2½ to 3; Wheal Coates, 1½ to 1½; South Crofty, 9 to 9½; South Frances, 15½ to 15½; Tincroft, 17 to 18; West Bassett, 16 to 16½; West Frances, 13 to 14; West Kitty, 5 to 5½; Wheal Agar, 13½ to 14½; Wheal Grenville, 8 to 8½; Wheal Kitty (St. Agnes), 2 to 2½.

At West Phoenix meeting a call of 6s. per share was made. The accounts showed a balance against the mine of 26927. The prospects are considered good. West Poldice, 4½ to 5; at the meeting there was a loss shown of 16737. on four months working, and a debit balance of 22717. A call of 5s. per share was made. New Kitty, 1½ to 2; West Polbrean, 1½ to 1½. Wheal Jewell, ½ to ¾; at the meeting a call of 1s. 6d. per share was made. The accounts showed a loss of 9577. on four months working, and a debit balance of 4827.

COPPER MINES.—At the Cornish ticketing on Thursday the standard for tin was unchanged. The average price of the ore sold was 27. 19s. 6d. for 6 per cent. produce. Bedford United, 2 to 2½. This mine sold 107 tons for 3237. 13s. 6d. Devon Great Consols, 9½ to 10½. 811 tons have brought 13367. 10s. 6d. South Devon United, 1½ to 1½. The sale here, 302 tons, realised 9667. 5s. Marke Valley, 1½ to 1½; Wheal Crebor, 3½ to 4. The sale of ore here, 507 tons,

realised 16167. 11s. The lode in the 120 end east still improves, and is now worth 107. per fathom. East Crebor, ½ to ¾. This mine sold 40 tons at 67. 10s. 6d., or 2617. West Crebor, ½ to ¾; West Caradon, 1 to 1½. The sale here, 150 tons, brought 5387. 8s.

South Caradon, 60 to 65: the 300 tons sold here realised 19137. 6s. Carnarvon Copper, ½ to 1½; the prospects here are such to warrant the expectation of great returns shortly. New Cook's Kitchen, 6½ to 6½; Mellanear, 4½ to 5; Hingston, 1 to 1½; Mona, 11½ to 12; Parys Copper, 15s. to 20; Prince of Wales, 16s. to 18s.; West Seton, 20 to 22; Gunnislake (Clitters), 3½ to 4; New West Caradon, 8s. to 10s.; Devon Friendship, 1½ to 1½; the lode in the adit end has improved to 6 tons of arsenical mudic per fathom. Sortridge Consols, 1½ to 1½; a favourable report from Capt. Thomas of Cook's Kitchen will be found in another column.

LEAD.—The expectations concerning lead have not been realised, and, if anything, the market is decidedly weaker. In lead mine shares there is very little doing, and prices are merely nominal. Vans, 9½ to 10½; a more cheering report has been received from the agent. The month's sale, on Thursday (200 tons of lead ore and 100 tons of blende), realised 24177. 5s. Great Laxey, 17½ to 18; Roman Gravel, 12½ to 13; Tankerville Consols, 10s. to 12s. 6d.; Leadhills, 2 to 2½; Herodfoot, ¾ to ¾, call paid. Frongoch, 4 to 4½; this mine has sampled 150 tons of blende and 100 tons of lead ore. Grogwinion, 2½ to 3; the sampling here is 80 tons. Goginan, 1 to 1½. Red Rock, 1½ to 2; New Wye Valley, 1 to 1½; Ystwith, 1 to 1½. Great Holway, 5 to 5½; the 20 tons of lead ore sold on Thursday at 117. 5s. per ton. The 60 continues a good course of ore. Coed-y-Fedw, 1 to 1½; Kirk Michael, 1 to 1½; Bwlch United, 2 to 2½; East Craven Moor, ¾ to 1; East Van, 1½ to 1½; Goddard's, 1 to 1½; Gored and Merlyn, 2½ to 3; North D'Eresby, 1 to 1½; Pen-yr-Oreidd, 1 to 1½; West Holway, 1½ to 1½; West Lisburne, 1½ to 1½; Great West Chiverton, 5s. to 7s. 6d. East Roman Gravel, 17s. 6d. to 20s.; they have sampled 40 tons of lead ore for the month. South Darren, 1½ to 1½; the 110 east is worth 15 cwt. of lead ore and 2 tons of copper ore per fathom. Pandora, ¾ to ¾; the 45 south is entering No. 1 run of ore ground in the 33. They sample 20 tons of lead and 35 tons of blende for the month.

FOREIGN MINES.—Almada and Tiritio, 5s. to 6s. 3d.; Arendal, 2½ to 2½; Brazilian Gold, 1 to 1½. Blue Tent, 2½; this company has been amalgamated with the Fall Creek Lakes Water Company. Birdseye Creek, 1½ to 2; Cape Copper, 43 to 45; Colorado, 2½ to 2½; Don Pedro, ¾ to ¾; Emma, ¾ to ¾; Devala Moyer, 1½ to 1½; Indian Glenrock, 2½ to 2½; Indian Phoenix, 1½ to 1½; Indian Trevelyan, 1½ to 1½; Mysore, 1½ to 1½; Oregum, ¾ to ¾; South Indian, 2½ to 2½; Tambracherry, 1½ to 1½. Santa Barbara advices show a profit for the month of April of 1307. 0s. 5d. The gold return is estimated at 16387. 16s. Placerville, 2½ to 2½. Kapanga, ½ to ¾; the capital of the company is to be increased. Michipicoten, 1½ to 1½; Panullico, 5½ to 6; Richmond, 17½ to 18; Ruby, 7½ to 7½; English and Australian, 15s. to 20s.

The Market for Mine Shares on the Stock Exchange was somewhat inanimate at the beginning of the week, and some slight fears were entertained that the period of activity was drawing to a close; on Thursday, but to-day, however, there was a complete revival, and the announcement that the Chile Gold Mining Company of Venezuela would issue its prospectus, with 300,000. out of the 500,000. subscribed, had a most favourable effect. The market closes firm.

Indian gold mine shares have again commanded a large share of attention, and a considerable business has been done. The principal feature of the week in connection with these securities has been the hearing of the case of Harris against Fleming, before Vice-Chancellor Hall. It appears that Mr. Wynaad originally prospected the South Wynaad Mines and secured the leases from the Rajah of Melanboor, under an arrangement with the now bankrupt firms of Smith, Fleming and Co., and William Nicol and Co., of Madras. Mr. Harris claims, and as far as the case has gone, appears to have a good chance of obtaining, by decree of the Court, one-third of the profits of all the South Wynaad gold companies whose leases are younger than 1877. The case is more fully referred to in another column. The Alpha Company (registered in Madras) appears to be unaffected, but the South Indian, Indian Glenrock, Prince of Wales, South-East Wynaad Prospecting, and all others working on that tract of country, which includes about ten other companies, are interested. It appears that Mr. Harris's solicitor lodged his protest and claim to one-third of all profits with each company at the time it issued its prospectus. The hearing will be resumed to-morrow (Saturday). The closing quotations of the principal securities were—Devala Central, 1½ to 1½; Devala Moyer, 1½ to 1½; Devala Provident, 1½ to

The San Domingo is in the south-east of Portugal, and in the same range of mountains which contains the Tharsis and the Rio Tinto properties.

The Birchington Bay Freehold Land and Estate Company, with a capital of 150,000*l.* in shares of 5*l.* each, has issued its prospectus, which will be found in the last page of to-day's Journal, and the enterprise is further referred to in another column. The company has acquired a good acreage on equitable terms and is considered to possess all the elements of success, the position being one where land will assuredly be of increasing and permanent value.

The Polberro Tin Mining Company, with a capital of 20,000*l.* in shares of 1*l.* each, is formed to acquire the Royal Polberro Consols and Wheal Primrose sets in the St. Agnes district, Cornwall. The prospectus, which will be found in another column, states that the Polberro Mines were worked uninterruptedly for many years, during which large returns of tin ore were made, resulting in the division of handsome profits among the shareholders. The value of the eastern end of the set, formerly known as Wheal Primrose, which adjoins Penhalls, is specially referred to by Capt. Bennetts, of Penhalls, and John Gilbert, of Mellanear. From Wheal Primrose considerable returns of tin were made some years ago at a depth of not more than 40 fms. below the adit level, and the Penhalls Mine is now paying regular dividends to the proprietors, and presenting a very favourable appearance in the levels which are now being worked. In Old Polberro the character of the numerous lodes, along the sides of which innumerable small branches filled with rich ore are met with, is peculiar to the district, and renders them especially suited for working on tribute, which will be extensively adopted. It is a well-established fact that the lodes of this district have proved most productive as points where they have formed junctions with one another; and this feature is considered especially important, as the Pink lode, which is at present being worked with much success in the Penhalls Mine, will intersect the Porbello great lode a little below the present bottom of Wheal Primrose. The board of direction includes Mr. Richard Taylor and other gentlemen of practical mining experience, and Messrs. John Taylor and Sons are the managers. The capital is payable 7*s.* 6*d.* per share up to allotment, and the remainder in calls of not more than 5*s.* each, at intervals of not less than three months.

The Mona Consols Copper Mining Company, with a capital of 20,000*l.* in shares of 1*l.* each, has been formed to acquire for 5000*l.* (of which 2000*l.* is taken in cash, and the rest in shares), and develop a valuable copper mine, near Amlwch, Anglesea. Among the special attractions of the property is the fact that the Parys Mines, in the immediate vicinity, has returned 7,000,000*l.* worth of ore; and the Mona Mines, also in the neighbourhood, entered the dividend list within six months of its incorporation, which augurs well for the success of the present company. The several members of the board are, moreover, of long experience in mining matters, and the bankers, brokers, and other officers, are all highly respectable. It will be seen from the prospectus, which appears in another column, that the property is held on a renewable lease, at the nominal dead rent of 5*l.*, merging into a royalty of 1-20th. The mine is two miles from the Mona and Parys Mountain Mines and in the same mineral zone. It is traversed for the whole length by three distinctly defined lodes, which have yielded ore assaying as high as 30 per cent. for copper, but beyond the work of ascertaining their richness and that of the mine generally, no extraction to any great extent has taken place. The proximity of the shipping port of Amlwch affords important facilities for the carriage of ore. The Mona Mines are returning nearly 400 tons of copper, besides bluestone, ochre, &c.; the Parys Mountain Mining Company, 200 tons, and ochre; and the Morla Du Mining Company, 150 tons, as well as some bluestone. The mine has been thoroughly examined and reported upon by mining engineers of high standing and ability, who are unanimous in pronouncing it to be a property of great value, the energetic working of which under proper management promises to lead to results far more profitable than has already been realised in the other rich copper mines of the district. Very little capital will be required to prove the lodes, and several thousand shares have already been privately subscribed.

The Wheal Silver and Lanteglos Mines, with a capital of 30,000*l.* in shares of 1*l.* each, has been formed to purchase the mines of the same name at Helston-in-Trigg, near Camelford. It will be seen from the prospectus in another column that the ore yields 81*½* per cent. of lead and nearly 37 ozs. of silver per ton. It is added that both these mines are quite unique in their capabilities for rapid development. The ore is found in large quantities within a few feet of the surface, and very few mines even of great depth can show such well defined lodes and rich silver-lead. Simultaneously with making returns from the shallow depths, the shafts will be continued to be sunk so as not only to increase the profits, but to open out reserves in such quantities that the mines shall be a source of riches for generations to come. The great lode of Wheal Silver being a north and south lode, although not proved upon in Lanteglos, doubtless runs through the set, and in the same way the main lode of Lanteglos, although not proved upon in Wheal Silver, also runs through this set, but the known richness of the two lodes is in the opinion of the directors more than sufficient to establish the two mines, and they prefer to put forward nothing not capable of immediate and visible proof.

Devon Great Consols, 9*½* to 10*½*; the ends, according to the manager's report this week, are improving, and the sales of copper ores on Thursday realised 133*½*. Devon Great United, 1*½* to 2; as will be seen by the agent's report, good progress is now being made, Kit Hill Great Consols, 20*s.* to 22*s.* 6*d.*; the managers report that the new discovery of tin ground almost at surface is improving as depth is attained. South Wheal Frances, 15 to 16; the mines continue to improve in several points. Drakewalls, 20*s.* to 22*s.* 6*d.*; the mines are now being rapidly drained, and operations on the tin ground and copper lode will, it is expected, soon be commenced.

East Devon, 1*½* to 2; magnificent copper ore is, it is reported, being raised from the shaft, which is now being sunk below the adit level. It is considered evident they are now in a large course of ore. Some splendid specimens have just been received, and may be seen at the company's office.

East Long Rake, 1*½* to 1*¾*; somewhat quiet pending the erection of machinery, but the price has been maintained. The weekly reports show that the ends of the 50 are advancing on a good lode, and profitable stopping ground is being opened up, so that there will be plenty of work for the machinery when completed.

Mount Carbis, 3*½* to 3*¾*; the engine-house is up, and they are getting in their engine. It is said that a considerable amount of local interest attaches to this mine, it having been regarded as a desirable piece of mining ground for some years past. Capt. Tregay states that since he has commenced he has made some important discoveries on the tin lode. There are also very important copper lodes running through the property, to which he will also direct his attention. It is said that the rich quality copper ore has been taken up only a few feet from the surface, but until the present parties got into it there has been always some obstacle to its being worked. All this, it is believed, is over now, and they are putting in engine, building boilers, &c., in good earnest.

At the Monkton Manganese Companies mines rich ore is now being raised from the new lode, which is 3*½* ft. wide, and completely drained by the shaft, now down 27 fms. from surface. A large pile of high quality ore will soon be ready for market.

Mona, 11*½* to 12; all operations both underground and at surface are progressing well. The mine is opening out satisfactorily, and ore is accumulating faster than the present smelting appliances can deal with it. Advantage is being taken of the present fine weather to dry large quantities of ochre, for which extensive orders have been secured.

Richmond, 17*½* to 18; at the board meeting on Thursday the directors declared an additional dividend of 1*l.* per share, payable on Tuesday next. There is, of course, no news from the mine, the furnaces being closed down.

Ruby and Dunderberg, 7 to 7*½*; the telegram published this week is considered exceptionally good, and the same may be said of the general mining report, where excellent progress is advised. The half-yearly meeting is to be held on Tuesday, when no doubt some interesting information will be afforded to the shareholders; meantime the following extract from a letter from Eureka, dated May 28, will be interesting:—"The Dunderberg is looking better now than at any time since work was commenced. Ore is being shipped to the extent of 30 tons per day (210 tons per week) to the furnace. This will average 850 per ton in gold and silver and 24 per cent. lead. The Bullwhacker Mine is also looking much better, and is producing about 5 tons per day (35 tons per week).

California Gold (Colorado), 1*½* to 1*¾*; a telegram received from the mine to-day states—"Product of this week's run from milling ore, 188 ozs. gold. Receive returns of smelting ore 1st of month. Total week's produce gives profit 500*l.*"

Blue Tent, 2 to 2*½*; this company has been amalgamated with the Fall Creek Lakes Water Company (Limited), under a new title. The company has been making profits for the last five years, and having now almost completed the necessary developments, is in a position to divide increased profits as soon as the amalgamation is completed. Further reference to this again in an early Journal.

Birdseye Creek, 1*½* to 2. Placerville, 2*½* to 2*¾*; the 600 ft. level is opening out remarkably well, and good speed is being made with the sinking of the main shaft, which is now down 670 ft. Michipicoten, 1*½* to 1*¾*; a satisfactory report on this property from the manager—Capt. J. Opie, late of South Frances—will be found in another column.

Kapanga, 1*½* to 1*¾*; a special meeting held on Monday confirmed the resolution passed a short time since to increase the capital of the company. Full particulars will be found in another column. Shareholders and others interested are sanguine as to results are long.

St. John del Rey, 190 to 210; under date Serra de Cocas (May 20), Mr. Charles W. Williams writes: The decision of the Provincial Court of Appeal, Tribunal de Relacao de Minas Geraes, in the now celebrated case of the Casa Branca Blacks relieving the St. John del Rey Company from their liability to pay the accumulated wages of 20 years to these blacks, has been quashed by the Superior Court of Rio de Janeiro. The St. John del Rey Company, therefore, remain liable under the sentence of the Juiz do Direito de Comarca de Rio das Velhas. It is calculated that the amount due to deceased blacks only of the extinct Casa Branca, or Brazilian Company, which is in a position to free 1000 slaves. This is an unfortunate event for the shareholders, but of course they knew when they invested that the company had the catings of slavery. It will be for them to settle with their managers, who assert that they have paid this money to people in London in-

stead of to the blacks in Brazil. The question of damages for their illegal reduction to slavery will occupy the English Courts shortly.

Missouri, 9*½* to 10; a notice received this week, dated June 1, state that during May, at St. Clair Mine, in the 315 north, 17 fms. of ground were stoped, yielding 2 tons per fathom. The stopes continue to present a most satisfactory appearance. The 315 north has been advanced 13 ft. The lode averages 4 in. in width, and is filled with clay and plugs of minerals. The St. Clair shaft has been sunk 9 ft., and the floor of hard flint has been gone through, and we have come into a clay opening. The ground in the shaft presents a most encouraging prospect. The vein extends across the shaft, and is 6 in. in width, being filled in between the walls with ferruginous clay, mudic, and galena. The indications justify the expectations of cutting strong courses of ore as we go down and extend levels below their present workings.

In lead mine shares there has been somewhat more business doing, and although no material rise in the price of lead has yet taken place, the improved price of tin and increased firmness of copper has created a decidedly better feeling with regard to the future of lead. Roman Gravels, 13 to 13*½*; the several ends driving are reported worth about 20 tons per fathom. Tankerville, 12*s.* to 13*s.*; it is reported that the bottom ends driving are improving. Mr. Peter Watson has just returned from Shropshire, and states that the mines are looking wonderfully well.

Van, 9*½* to 10*½*; the usual monthly report will be found in another column. The mine is looking better. The sale on Thursday, 200 tons lead and 100 tons blende, realised 2417*½* 5*s.*

Pant-y-Mwyn, 1*½* to 2*½*; the 22, west of Modlyn shaft, gets softer as it advances towards the ore ground; the lode is very strong, and yields lead ore and blende, and will, it is thought, soon be in the rich run just ahead of the fore-blast. Another parcel of ore will be sent off this week.

North D'Esreshy Mountain, 1 to 1*½*; the end driving north-east maintains its value and character; the vein is composed of beautiful soft carbonate of lime and nice lumps of silver-lead ore. The lode in the shaft is improving, producing lead almost throughout.

Alston United, 1*½* to 1*¾*; at which price they are reported to have been freely dealt in. The mines are looking well.

East Herodsfoot, 1*½* to 1*¾*; it is reported that the letters of allotment are being issued to-day. The progress of the adit towards Bewe's lode is satisfactory. On reaching the lode (which is about 8 fms. more to drive) the adit will be continued upon the lode into the high hill, beneath which rich silver-lead ore, mixed with the gossan, has been met with in the cocean pits.

With reference to the Grand Trunk Railway of Canada Mr. William Abbott, of Tokenhouse-yard, has addressed a circular to the shareholders in which he says—Judging from past experience, it is not at all improbable that, in order to assist the operations of those who have lately made strong efforts to depreciate the value of your stocks, the usual course will be adopted of issuing circulars with the view of inducing you to part with your property. As I have identified myself for so many years with the welfare of this company, and believing as I do that its future will justify my most sanguine expectations, I would strongly advise you not to suffer yourself to be influenced by any plausible statements or calculations which may be made, but to await the opportunity which will be afforded you of meeting your directors on Tuesday, the 28th inst., when I shall put such questions to the president as it is desirable should be authoritatively answered by him, so as to utterly refute the numerous mis-statements circulated by speculators for their own purpose, and in an interest adverse to yours.

The Chile Gold Mining Company, with a capital of 500,000*l.* in shares of 1*l.* each, whose prospectus will be found in the last page of to-day's Journal, is more fully referred to in another column. Only 210,000 shares remain to be placed.

It is stated that two of the directors of the Kurfursten Avenue Company have proceeded to Berlin to complete the necessary formalities before allotment.

The shares of the Birchington Bay Freehold Land Company have been dealt in this afternoon at 5*s.* per share prem.

The coupons of the Maurities Land Credit and Agency Company, maturing June 20, will be paid on presentation at the Union Bank of London, Princes'-street, and at the Royal Bank of Scotland, Edinburgh, and its branches.

The coupons due July 1, of the United Danubian Principalities 3 per cent. Loan, 1871, will be paid at the offices of Messrs. Fruhling and Göschen, on and after that date, Wednesday and Saturdays excepted.

Mr. William John Rhodes, the managing director of the Moyer Coffee Company, was at a *dinner* on Tuesday presented with a service of plate by some of the leading shareholders in recognition of his exertions in connection with the introduction of capital (which now reaches some 10,000,000*l.*) for the working of the Indian gold fields.

The quotations for Diamond Mining Companies' shares remain without variation.

The directors of the London Steamboat Company (Limited) inform the shareholders that they have been enabled to carry out arrangements whereby the debenture debt is entirely extinguished. A dividend at the rate of 8 per cent. per annum on the ordinary shares will be paid and a balance carried to a reserve fund.

The dividend of 10*s.* per share voted at the general meeting of the Imperial Ottoman Bank to-day will be payable on and after July 1, at the London Agency, Threadneedle-street.

The letters of allotment in the "Olathe" Silver Mining Company (Limited) have been posted to-day.

At Truro Ticketing, on Thursday, 2659 tons of ore, of 6 average produce, and containing 160 tons 16 cwt. of fine copper, were sold for 7931*½* 5*s.* 6*d.*, being 2*l.* 19*s.* 6*d.* per ton of ore; 9*s.* 11*d.* per unit, or 49*l.* 11*s.* 6*d.* per ton of fine copper in the ore, and an average standard of 94*l.* 16*s.* Subjoined are the particulars of the two last sales:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper.
June 2, 958	958	11	6	63	£3 5 6	9 <i>s.</i> 10 <i>d.</i> £49 6 2
" 23, 2659	2659	16	0	6	2 19 6	9 11 11

Compared with the last sale, the standard remains stationary.

GAS SHARES.—The principal business in these shares, according to this evening's report of Messrs. W. L. Webb and Co., of the Stock Exchange and Finch-lane, has been in British, 32 to 32*½*; Bombay, 5*½*; Continental Union, 2*½*; Commercial, 185*½* to 187; ditto, new stock, 135*½*; ditto, 4 per cent. debentures, 107; Gaslight and Coke, A, ordinary, 178 to 179*½*; ditto, 4 per cent. B, 81*½*; ditto, 4 per cent. debentures, 105*½*; ditto, 10 per cent. pref., 218*½* to 219; ditto, 7*½* per cent. pref., 160*½*; ditto, 7 per cent. pref., 134 to 135*½*; Imperial Continental, 188*½* to 191; Monte Video Gas, 15*½* to 15*¾*; Oriental, 16*½*; ditto, 187*½* to 191; Rio de Janeiro, 24*½*; St. Paul, 14; South Metropolitan, B, 177*½* to 178*½*. Gas stocks steady. For closing prices see list on the last page of Journal.

INSURANCE SHARES have, according to this evening's report of Messrs. W. L. Webb and Co., of the Stock Exchange and Finch-lane, been dealt in as follows:—City of London, 2*½* to 2*¾*; Employers Liability, 1*½* to 1*¾*; Indemnity Marine, 120; Fire Insurance, 4*½* to 4*¾*; London Provincial Marine, 1*½* to 1*¾*; London and Staffordshire Fire, 1 to 1*½*; London, 67 to 67*½*; Guardian, 80*½*; Marine, 113*½*; Railway Passengers, 8; North British, 65*½*; Rock Life, 8*½*; Thames and Mersey, 14; Union, 52*½*. Insurances dull. For closing prices see list on the last page of Journal.

TRAMWAYS.—The closing prices of this evening, as quoted by Mr. W. Abbott, of Tokenhouse-yard, are given in tabular form in the 12th page of Journal.

RAILWAY AND GENERAL MARKETS.—Referring to the course of business done to-day during official hours (11 to 3) Mr. Ferdinand R. Kirk, 5, Birch-lane, writes:—Opening: Trunks as yet show no signs of recovery, and it is probable on setting day that "bulls," for once, will have to part with some money. Those who subscribed last week for the new issue at 25 have since seen the same issued at 23. The Third Preference, 50*½* to 50*¾*, and the Ordinary, 23 to 23*½*, are both 1*½* lower than last night. Turks continue to droop; the Fives will hardly realise 16*½*; the 1873 bonds can only be sold at 13*½*; Hindustan excepted. Most American shares are lower. Readings can be bought at 30*½*; and Eries at 84*½*. East Wheel Roe, 1*½* dis. to par; Old Shepherds, 1*½* to 1*¾* dis.; Prince of Wales, 1*½* to 1*¾*; Parys Copper, 1*½* to 1*¾*; Emma, 2*½* to 3; Ruby, 7*½* to 7*¾*. Closing: Several home railways gave way from 1*½* to 1*¾* per cent., among them being Great Eastern, North-Eastern, and North British. A special activity was shown in Spanish Bonds, which reached 25*½*, Turks remaining unaltered. A further decline was marked in Grand Trunk of Canada.

BRATSBURG COPPER MINING COMPANY.—We understand the applications for shares in this company have been very numerous, and when the list is closed this evening it is probable that the whole capital will at least be fully subscribed for. The annual report of the directors of the Cape Copper Company, just issued, has attracted attention, as showing what can be done with good copper mines, even at the late low prices for that metal. The net profits of the latter company for 1880 were 111,871*l.*, a large portion of which has been divided among the shareholders, and 10,000*l.* added to the reserve fund, the shares of that company being quoted 45*l.* (7*l.* only paid). The Bratsburg mines seem to be very similar to those of the Cape Copper Company as to quality and quantity. At the former, considerable returns and proportionate profits are already being made, with only a few men; the quality of the ores varies from 20 to 30 per cent., and some is even higher. The numerous lodes are large, and are proved to be very productive, and richer as they go deeper. It is estimated that immense quantities of rich ore are available in the ground already opened, with practically an unlimited extent for future development, and that a good dividend will be earned the first year, to be gradually increased annually. There is no royalty payable, and the mines are within a very few days journey of London, giving, among other advantages, moderate charges for transmitting the ores to this country, the whole expense from the mines to Swansea being only about 2*l.* 5*s.* per ton, and the dressing cost about 8*s.* 6*d.* per ton, which is likely to be reduced. We understand that Mr. Matthew Loam, of Cornwall, the well-known engineer, has gone to the mines, to advise as to the erection of boring machinery, &c., so that the directors are showing considerable energy in taking steps for carrying out the extended

operations necessary for enlarged returns and profits. According to the official advertisement the list is to be closed to-day, but we believe applications received by Monday morning's post will be included.

SORTIDGE.—In another column will be found a most favourable report on this mine by Capt. Charles Thomas, of Cook's Kitchen Mine. The shaft on the gossan lode is down 6 fms., and the lode is 6 ft. wide, of a most promising appearance, and composed of gossan, quartz, mundic, and stains of black copper ore. He believes the lode will be found equally rich to what it was on the other side of the cross-course, from where large returns were made, and dividends paid. The shaft on the tin lode is down 6*½* fms., and from 6 tons of tinstuff raised here Capt. Thomas carefully took samples, and found them to contain 48 lbs. of tin per ton. He recommends an adit to be brought up on this lode, giving several hundred fathoms in length, and varying from 20 to 50 fms. high, which can be done very cheaply, as no pumping or hauling power will be required. He believes Sortridge can be made a good and permanently remunerative mine.

DEVON FRIENDSHIP.—The lode in the adit end has further improved to 6 tons of arsenical mundic per fathom, giving still stronger indication of rich courses of copper ore in the deeper levels. The Robey engine and steam-capstan are at work, and save 10*l.* per month in horse hire. The surface arrangements generally are now in good working order, and nothing remains to be done but getting the large pumping-wheel erected and in operation, which a few weeks more will see accomplished, and very soon afterwards the levels below the adit will be drained, and greatly increased returns made. The reports from the mine will then be of considerable interest, as important discoveries will be looked for from time to time. The present regular sales of arsenic and tin from the immense accumulations at surface will continue to be made.

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25 Ruby and Dunderberg £7 <i>½</i>	20 Richmond, £17 <i>½</i>	65 Glenrock, £2 4 <i>s.</i>
20 Almada and Tiritio, 6 <i>s.</i>	40 La Plata, £1 4 <i>s.</i> 6 <i>d.</i>	80 Port Phillip, 7 <i>s.</i>
70 Don Pedro, 9 <i>s.</i> 9 <i>d.</i>	120 Rhodes Reef, 18 <i>s.</i> 3 <i>d.</i>	20 South Devon United, £1 <i>½</i>
60 So.-E. Wynaad, £1 <i>½</i>	200 Chontales, 2 <i>s.</i> 3 <i>d.</i>	20 West Kitty.
100 Ooregum, 16 <i>s.</i> 3 <i>d.</i>	30 Frontino, 24 <i>½</i>	100 Wheal Coates United.
	35 Devala Moyer, £1 18 3	50 West Lisburne.

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50 East Lovell, 38*s.* 9*d.* 15 West Godolphin, 38*s.*

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TREVINE CONSOLS—SPECIAL BUSINESS.—We beg to call particular attention to the Prospectus in this day's Journal. Reports and every information forwarded on application as above. An important discovery in new shaft (one of the Wheal Moor lodes) is daily expected, when a great rise in price must of necessity take place.

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30 Derwent. 50 Indian Trevelyan. 70 Tankerville.
35 Drake Walls. 100 Llandegla. 60 Tanbrachery.
10 Devon Great Consols. 30 Lead Hill. 60 Tamar.
100 Devon Friendship. 62 Marke Valley. 100 Wheal Coates.
50 East Caradon. 74 New Trumpet. 20 Wheal Agar.
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35 East Van. 45 New Kitty. 65 West Polbreen.
50 Gawton. 60 Okel Tor. 50 Wheal Sisters.
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English investors who desire to purchase shares may deposit the purchase money with the Union Bank of London, to the credit of Preston, Kean, and Co., Bankers, Chicago, for the use of the Rico Silver Mining Company, and advise me, by letter, of having made the deposit, stating the number of shares wanted, and the name and address of the person to whom the certificate is to be issued.

J. J. WEST, PRESIDENT.

The President of THE RICO SILVER MINING COMPANY IS NOW IN ENGLAND, and will be happy to RECEIVE COMMUNICATIONS from Investors, and to send PROSPECTUS, REPORTS, &c., on application.

Address, J. J. WEST, care of Messrs. Pim Brothers and Co., 30, Milk Street, E.C., London.

Notices to Correspondents.

DIAMOND DRILLING.—"J. G." (Leeds).—The use of crushing machinery for diamondiferous soil has been proposed by some Cornish mining engineers who have visited the deposit, but the claimowners well understood the absurdity of the suggestion—any valuable diamonds that happened to exist in the stuff would be rendered valueless. The soil—a kind of hard sandy gravel—is carefully broken into manageable lumps with pickaxes, and these are bruised with wooden mallets. By this means the mass is reduced fine enough for every stone to be seen in the washing process. It is quite a mistake to suppose that because the diamond is the hardest mineral it will not break; a comparatively light tap will shatter a diamond to fragments when the tap is given in a particular manner, and a stone worth, perhaps, 20*l.* reduced to half-a-dozen fragments, worth not more than 5*s.* each. No machinery except for hauling is required at the diamond fields, and of this there is an abundance already provided. The wooden mallet used would seldom, if ever, break a diamond. The diamonds are usually sent to Europe in the rough. As a rule, Cape stones are not equal to Brazilian, even when the former cannot be said to be of off colour, and are well cut.

THE KIMBERLEY DIAMOND MINE.—"Miner" (Calstock).—There is no lack of labour at the diamond fields, but the convicts appear to be the most desirable to employ. The free labourer earns from 20*s.* to 25*s.* per day, and soon becomes, to use the word of a Government Inspector, a lean, trembling *debauchee*, but the convict, with proper discipline, clean food, and enforced temperance, has improved in every respect. Mining experience is of little value at the diamond diggings, since there is really no mining carried on; it is gravel quarrying, and the natives (blacks) seem to have the sharpest eyes for finding the diamonds when they are once shown what stones are wanted.

DIAMOND WASHING.—"Investor" (Glasgow).—The reason no "ditch companies" have been started in the South African diamondiferous regions similar to those in existence in the Rocky Mountains is probably to be found in the scarcity of water. All the South African rivers are mere streamlets, for when they widen out they are seldom more than 2 to 4 ft. deep. Frequently the water to wash a load of diamondiferous soil costs more than the diamonds obtained from it, leaving cost of labour and materials out of the question. "Investor" should read the Geographical Society's and Geological Society's Transactions.

ROCK DRILLS.—"J. O. B." (City).—Most of the drills advertised appear to give good results in practice, and the expense attending their use does not differ much. Frequently low first cost and short duration go together. When workmen give them fair play rock-drills are advantages to both workmen and shareholders, and many of the early failures may be traced to the prejudice of those under whose control the machinery was placed.

GOLD IN WALES.—The paper by Mr. T. A. Readwin, F.G.S., shall appear in next week's Journal.

SKETCHES.—If the correspondent in last week's Journal who signs himself "A. M. S." will submit me samples and prices of this, I shall be able to give him full information. The price, of course, will be ruled by the quality.—Geo. G. Blackwell, Mineral Broker: *Liverpool, June 21.*

SHAREDEALING.—"J. B." (Ball's Pond).—The company mentioned is not quoted in the official list, so that probably no setting-day has been granted.

RECEIVED.—"G. W. P." (Chelmsford).—"S. Payne" (Exeter).—"J. M."—"B. N."—"S. O."—"Excursionist" (North Devon).—"M. N. S."—"W. T." (Schull).—"J. L." (Liverpool).—"S. P." (West Kirby).—"E. D." (Chicago).—"Old Miner." The publication of the *Chelmsford Lectures* will be resumed directly space can be spared for them. "Bulbub" (Bratsberg and Arendal).—"Novice" (Great Polgoth).—"Old Cornishman" (Colorado). We shall be glad to have all the particulars you can forward.—"G. M. Boddy" (West Polgreen). Shall appear next week.—"Observer" (East Caradon).—"Enquirer" (Wheal Jewel).

THE MINING JOURNAL,
Railway and Commercial Gazette.

LONDON, JUNE 25, 1881.

THE WHITFIELD COLLIERY EXPLOSION.

COMMITTEE OF THE MANAGER FOR MANSLAUGHTER.

For the first time we believe in our mining history a certificated colliery manager has been committed to take his trial on a charge of manslaughter. The explosion which took place at the Whitfield Colliery in the first month of the year was a most disastrous one, and most undoubtedly preventable. But it would appear that in some mines every inducement is held out for an explosion to take place. In the bottom of the pit there was a smithy, where there was constantly a large fire with flues and pipes, and on the night of the explosion a boy put a quantity of oiled cotton waste on the fire, which led to a flame being raised that could not be extinguished, and led to the gas being ignited. On the day before the explosion it was stated at the inquest that the soot or coal dust in the flue was 1 in. deep, and on the night of the explosion the smithy fire was unusually large. One of the principal charges against the manager appears that he was too anxious to save the horses, and that in consequence some of the men who went down for that purpose lost their lives. Such was the evidence of a miner named HENRY WOOD. He stated that on being called from his work he went to the pit bank, and was sent for assistance. Whilst there a man named LOCKETT came up, having been down the pit twice, and said, "It's all over." The manager, Mr. THOMPSON, said, "Oh don't say so," immediately afterwards adding, "Go down again, and help to get out them horses." LOCKETT went down and was killed. Mr. THOMPSON then said to HENRY STUBBS and CAIRN MAYER, "Get in that cage, I know you will soon get out them horses." They went straight down and were killed. The explosion took place soon after LOCKETT went down a third time; previous to that he did not hear LOCKETT say, "There is no fear of an explosion, thank God."

Mr. THOMPSON himself gave evidence, and said he had no fear of an explosion, but he believed that the fire took place at the flue, and that the explosion was of coal dust and smoke. The smithy had been in the pit four years, and the Government Inspector had seen it. Four horses were brought up, but after the first had been got out, in consequence occupying time in doing so, he said he would have no more of the horses brought out, but he would have the men out. Mr. THOMPSON further stated that LOCKETT was a man of great experience, and before going down the last time said, "There is not the slightest danger." It appears that the Assistant Inspector of Mines had visited the workings, for he stated he observed nothing obviously wrong in a casual inspection of the smithy. For our own part we should have thought that an open fire in the bottom of a coal mine was in the highest degree dangerous. The same gentleman also stated that the efforts to put out the fire were highly commendable, but when the efforts were found to be in vain the remainder of the men should have been removed. Mr. WYNNE, the Chief Government Inspector, was more emphatic in his opinion, for he said there could be no doubt as to where the fire occurred, what was the cause of it, nor as to the cause of the explosion; no fire, he said, should be introduced in a mine where it could be done without, and to carry out that good rule ventilating furnaces were being dispensed with as much as possible. If he had seen the smithy in the pit he would have protested against it as a dangerous innovation. The heating pipes would set fire to the coal dust, and when the fire was getting beyond control there was immediate danger, and the men ought to

have been brought out. The gas would have been drawn on to the fire and an explosion would be the result.

Such are the main points of the evidence bearing on the charge against the manager. Mr. THOMPSON was evidently an able and capable manager, and took good care of the ventilation, and had the entire confidence of the workmen. It is, therefore, to be regretted that any thoughtless act should have involved a loss of life, and placed him in a position so painful. But, to our thinking, the greatest mischief was tolerating a smithy fire at the bottom. It is now the object of practical mining engineers not to trust to the ordinary ventilating furnace, but to replace it with the fan, which does not invite gas to come in contact with the flame, but at the Whitfield Colliery there was a double invitation—there was the furnace and the smithy fire. The verdict of manslaughter is the most serious imputation that can be thrown upon the manager of a mine, stopping, as it does, his future career in a position for which he may be eminently qualified, but it is to be hoped that it will cause all mine managers to allow of nothing being done or tolerated that can in the slightest degree endanger the lives of the workmen. Nothing whatever should be risked in any case, but everything done to ensure safety, and the fact of having two fires in a mine was in the highest degree dangerous, and should never have been allowed, and to this alone can be attributed the heavy loss of life which took place at the Whitfield Colliery.

THE IRON AND STEEL INDUSTRIES OF BARROW.

EXTRAORDINARY PROGRESS.

In no part of the kingdom has the population during the last decade increased to anything like the extent as it has at Barrow, and this is the result of the vast expansion of the iron and steel industries, and the introduction of other branches in which iron and steel are the principal factors. The latter includes engineering works, iron and steel shipbuilding, boiler-making, &c. Little more than 30 years ago Barrow was a very small village, known only to fishermen, but the discovery of large deposits of hematite ironstone led to buildings being erected for the workmen employed. This was followed by the erection of a couple of blast-furnaces in 1859, and two more in the following year. The ironstone was plentiful, of excellent quality, and adapted for any description of steel; and as the demand for it increased more furnaces were erected, so that there are now 16 belonging to the Barrow Hematite Steel Company, the works being the largest in the kingdom. The works and the company may be said to be the founders of Barrow, now a large and flourishing town, the population having increased from 18,245 in 1871 to 47,097 in 1881—a rate of progression not previously recorded in our history. The works were first carried on by a private firm, Messrs. SCHNEIDER and HANNAY, up to 1866, when the Barrow Steel Company was formed, and the Bessemer works laid out by Mr. SMITH, the President of the Iron and Steel Institute, and to whose courtesy, on more than one occasion, we have been indebted for an inspection of the vast works of which he is the manager. The ironworks are laid out in the most complete manner, and considerable alterations were made in the furnaces, some of which were reconstructed of a uniform height as best adapted for economical fuel, &c. The entrance to the works is a comparatively short walk from the station, the offices and waiting-rooms being handsomely furnished, and from these the visitor passes to the yard and on to the long range of furnaces, 14 of them being in a row, and quite close to the water. The furnaces have the usual appliances for utilising the waste gases for the boilers and stoves. Several engines connected with the Bessemer department are also heated by the same means, so that all appliances for the utilising of fuel have been adopted, and it is worth specially noticing that the pig is made with an expenditure of about 21 cwt. of coke per ton. In addition to a considerable number of blowing engines, there are close upon 100 boilers worked with the gases as before stated. On the ground there are a number of Coppee coke ovens for converting the coal, but a considerable quantity of coke is made at some of the coal mines belonging to the company. A vast amount of slag is produced, which is thrown into the water adjoining the furnaces; and, as this hitherto useless material for some time past has been made into building and road material as well as into glass, there certainly is a fine field open for private individuals or a company to commence operations in a branch of industry which has been successfully carried on at two or three places in the North of England, more especially as Mr. SMITH has stated if any glass manufacturer or slag user for any purpose would come to Barrow they would give them 750,000 tons a-year if they would only take it away from the furnaces. The annual output of the blast-furnaces is about 300,000 tons of pig, made from the ore worked in the company's mines, which is now more than 500,000 tons a-year, the Park Mine alone having yielded no less than 230,000 tons in one year.

For the conversion of the iron into Bessemer steel the molten metal is taken direct from the furnaces to the converters, the scrap in the ladle giving an average of about 1½ per cent. By having the converters so arranged with the blast-furnaces there were considerable advantages. One of these was the regularity they were obliged to have with respect to the blast furnace operations, because, as Mr. SMITH states, so sensitive was the Bessemer converter, as far as regarded the Barrow iron at least, that with a very small alteration in the proportions of the various classes of hematite ore used the difference in the steel produced from the converter, instead of being about 14 per cent., was found running up occasionally to even 30 per cent., so the moment that such a result occurred an explanation was asked from the manager of the blast-furnaces as to the waste, so that the main saving in conducting operations in Bessemer steel making was because they managed their blast-furnaces better than they had previously done. By the process named a better class of steel was made than they formerly had when they melted their pigs in the cupola. In the making of steel there are a number of 8-ton converters, so that the productive power is greater than at any other works, although the 15-ton converters in use at BOLCKOW, VAUGHAN and Co.'s may now equal it. The converters are some distance from the furnaces, in three sheds, and we believe that the quantity of iron taken to the converters has been upwards of 2000 tons a week. The steel, on being cast into ingots, is then compressed by a process introduced by Sir JOSEPH WHITWORTH. The amount of the pressure whilst the metal was in a fluid state being in proportion to the ductility required. To make steel suitable for manufacturing purposes, according to Sir J. WHITWORTH, it could not be produced with the amount of ductility required without pressure. By the process provision was made for the escape of the gases, and there was considerable flame caused by their ignition during the time of their escape. A large proportion of the steel is converted into rails, for which the company has a high reputation. Altogether there are six rolling mills, two being for rails and two for cogging, each of the latter being equal to 200 tons a day. After the ingots are cogged down in the rolls, there are a number of SIEMENS' re-heating furnaces, which

are heated by gas-producers arranged outside the shed. There is also a merchant mill, which is generally kept fully going, and in addition to the rails there is a large production of tyres, axles, and ordinary forgings. There are all the usual appliances, including cranes, lifts, with the other essentials for straightening and cutting off the ends of the rails. The two rail mills are driven by powerful beam engines, and rails 100 ft. in length are now being rolled. With the furnaces in blast, and the other machinery always in operation, it will be evident that the consumption of fuel must be very large at the steel works at Barrow. The company, however, are their own providers, having extensive collieries in South Wales, Lancashire, and the West Riding, so that they are not dependent on others, or on the market value of what they require in the shape of raw material. For the blast-furnaces alone at least 400,000 tons of coal will be annually required for the coke.

In South Wales the company have two collieries, the Brynceithin and the Barrow in Glamorganshire, the Dalton in Lancashire, and the Barrow in the West Riding of Yorkshire. As regards the latter the company was the first to solve a most important problem in the South Yorkshire field—the nature of the seams underlying the Nine-foot coal. This was done by the Barrow Company after going a distance of about 500 yards from the surface, when four seams, including the well-known Silkstone, were found of fine quality, giving an aggregate of 20 ft. of good coal. By so doing the fact was established that in the neighbourhood of Barnsley there was what might be called a new coal field at least 15,000 acres in extent at a comparatively moderate depth in comparison with mines in other parts of the country. At the colliery alluded to the company is now working the Silkstone coal, and there is a productive power of at least 1000 tons a day. A number of Coppee ovens have been put up, and new patent machinery has just been placed on the surface for washing and drying the slack—for the more finely powdered the coal the better the coke—before it is put into the oven. When it is made it is at once forwarded to the works at Barrow. Close to the colliery between 300 and 400 houses have been erected for the workmen, so that in addition to having really founded and made the town of Barrow, the company also done a great deal towards founding another town in South Yorkshire in the centre of a large mining district.

In addition to the iron and steel works, of which the Duke of DEVONSHIRE is chairman, there are other establishments in Barrow finding employment for vast bodies of workpeople. Foremost amongst these is the shipbuilding company, which has done well, being favourably situated for obtaining iron and steel, and also for launching. At the present time the Barrow company are engaged in an iron steamer—the City of Rome—of 9000 tons burden, propelled by engines of 10,000-horse power. But every thing points to the fact that steel will be the material of which ocean-going vessels before so very long will be constructed, so that the position of the Barrow Ship Company will be an exceptionally good one, seeing that they will be able to purchase on the spot, there being no cost of carriage. The difference between the cost of iron and steel plates is gradually lessening, there being the great difference in weight—fully one-fifth in favour of steel—to be taken into consideration. A great deal, however, will depend upon the price at which steel of a really good, uniform, and reliable character can be produced. Boiler-making has also become one of the Barrow industries, and those engaged in it have done well, one company having a speciality transplanted from a southern county by a well-known firm of agricultural implement makers. Engineering, too, has found a home, as well as other branches connected with the iron and steel trades. There are also some other businesses that have been introduced, such as the manufacture of jute, which are calculated to find employment for both males and females. In addition to all these, Barrow is becoming an important shipping port, with vessels crossing the Atlantic frequently, so that the importance of the town, manufacturing and otherwise, is such that it must now be recognised as one of the great centres of trade. Its extraordinary growth must also lead to its having a share of those parliamentary honours which are now enjoyed by decrepid and languishing towns without trade or commerce of any kind, and with not one-fourth of its population.

STEEL RAILS IN THE UNITED STATES.

It appears to us that the use of steel rails upon the great railroads of the United States, coupled with the important reduction which is being effected in the rate of interest current on bonds, is calculated to exert a most important influence for good upon American railroad property. It is the fashion sometimes to assert that the high rates now prevailing for American railroad securities are entirely due to speculative and transitory influences, and that a formidable reaction must sooner or later be witnessed. This is the language of writers of the school of the City editor of the Times. But we confess we do not altogether share these views. We do not wish to take up the cudgels for all American railroads, good, bad, and indifferent; but we do contend that there are great influences at work which have given a solid and reliable impetus to American railroad property. The great material progress of the Western States, and even of some of the Southern and Northern States, the vast influx of European immigrants, the establishment of the public finances upon a thoroughly sound basis, the consequent reduction in the rate of interest on money, the extended use of steel rails, the consolidation of sundry lines into extensive and important groups, are all powerful influences for good, and have told wonderfully in favour of American railroad property, so wonderfully as to very largely justify, in our judgment, the great and striking rise which has taken place in American railroad securities.

We have made these observations because it appears to us that the prosperity of American railroads has a very great deal to do with the prosperity of the iron trade of the world at large. The climate of the United States renders the use of steel rails especially advantageous to American railroads; and in exact proportion as American railroad credit becomes strong and vigorous, in the same degree must the American demand for steel rails become strong and vigorous also. Steel rails have in great part secured the prosperity—or, at any rate, the relative prosperity—of American railroads; and the prosperity of the American railroad interest will bring in its train an extended employment of steel rails. The two influences have reacted upon each other in the past, and it appears probable that they will react in a similar fashion in the future. It is noticeable that even now rails and railway material are leaving English ports, in by no means inconsiderable quantities, for the United States. The demand for rails on the part of American railroads has been and still is so considerable that American rolling mills cannot keep it wholly to themselves, even with the aid of the prodigious duties imposed by Congress on all foreign iron entering the Republic. There are rumours that the next harvest in the United States will be a less liberal one, and that American railroad traffic will suffer in consequence. It will quite time enough for us to realise this contingency when it actually sets in. The production of wheat in England and Scotland certainly does not keep pace with the growth of the population, and has probably rather a tendency to diminish than otherwise. The outlet for American wheat in Great Britain must, then, be increasing, taking one year with another. Moreover, the local traffic of American railroads must also have a decided tendency to expand, having regard to the growth of the United States year by year in wealth and population.

MELBOURNE INTERNATIONAL EXHIBITION.—The official Catalogue of Exhibits, with introductory notices of countries exhibiting, forms two handsome volumes of over 300 pages each. The progress of Victoria is admirably and concisely given by Mr. H. H. Hayter, the Government Statist. There are also highly interesting outlines of the history and position of the several other Australian colonies, and a really large amount of valuable information is obtainable from their perusal. The statistical summary of the Trade and Resources of the United Kingdom, compiled by Mr. P. Lund Simmons, under the direction of the Royal Commission for the Melbourne International Exhibition, presided over by H.R.H. the Prince of Wales, gives evidence of a large amount of care and attention having been bestowed upon its arrangement. Amongst innumerable other interest-

ing facts he shows the annual value of property and profits, as shown by the amount paid on income tax, has increased in the ten years ending 1877 about 33 per cent. The profits on land have risen from 64,108,565*l.* to 69,438,632*l.*; houses, from 78,125,903*l.* to 103,833,417*l.*; mines, from 5,744,782*l.* to 14,091,257*l.*; ironworks, from 2,013,961*l.* to 2,794,984*l.*; railways, from 18,830,584*l.* to 29,448,166*l.*; and canals, gasworks, quarries, and other profits from 5,812,475*l.* to 11,486,810*l.*; the total increase having thus been from 174,636,270*l.* to 231,093,266*l.* It is certainly clearly shown that there is much prosperity in the old country, however much cause some members of the community may have for complaint.

EXTRACTING METALS FROM THEIR ORES, AND SEPARATING THEM FROM EACH OTHER.

The successful application of electricity to industrial processes by Mr. WILLIAM ELMORE, of Blackfriars-road, has already been several times referred to in the *Mining Journal*, and a process which he has recently patented for extracting copper and other metals from their ores, and for separating metals from each other, will, it is believed, prove of great commercial value. At present the broken ore—cupreous pyrites, for instance—is, after the sulphur has been burnt out, ground to fine powder and roasted with common salt, then transferred to large tanks, and the chloride of copper is dissolved and washed out by boiling water; chloride, sulphate, and other liquors are also obtained in other ways well known for extracting and separating metals from the ore; it is with these liquors, however obtained, that Mr. Elmore proposes to deal. The liquors are allowed to settle and are then run off into clean tanks, over the top of which are arranged connecting rods from one of his improved dynamo-electric machines. From the anode rods he suspends thick plates of spelter or zinc, and from the cathode rods he suspends sheets of copper foil. He suspends the zinc or spelter anodes, after having been amalgamated, in porous cells of suitable size, which he places in the depositing tanks containing the chloride liquors, the porous cells being filled up with a mixture of (say) one part of sulphuric acid to about 24 parts of water by measure. This effectually prevents the deposition of sub-chloride. The current is passed, and as result the copper in the liquor is thrown down, an equivalent of zinc or spelter having in the meantime been dissolved into solution. He now syphons the liquor into large rough wooden precipitating tanks (leaving the deposited or precipitated copper behind), where he treats it for precipitating the zinc in solution therein. The zinc solution liquors always contain sulphuric acid in combination, which acid it is necessary to remove. To effect this the liquor is brought to boiling point, then he adds chloride of lime in quantity sufficient to combine with all the sulphuric acid, so forming a sulphate of lime which readily falls as a precipitate, leaving chloride of zinc in solution, which after being drawn off clear of the sulphate of lime has added thereto sufficient boiling milk of lime to precipitate all the zinc contained in the solution. It is important the chloride of zinc solution and the milk of lime be kept at or about boiling point during the precipitation of the zinc. The resulting oxide of zinc is then dried, and is ready for distillation, with small coal or coal dust in the ordinary way, and the zinc is melted and made into anode plates for re-use in the next working.

The refuse of amalgamated zinc from the porous cells is put into a retort kept for the purpose, and by the application of heat all the mercury is distilled over, and recovered for use in the next working. Should there have been in the ore any zinc it will be found in the chloride liquors and recovered by treatment in the same way as the zinc which is dissolved from the anode, as before described. The same series of operations are carried out when sulphate or other extraction liquors are being operated upon. In practice it is found that every trace of copper is electro-deposited from the copper liquors in a state of chemical purity, and it is thus separated from the iron or any other metals that may be in solution in the extracting liquors, whilst the soda, which is always abundantly present in these liquors, being free from copper very readily crystallises out, and may be used as a bye-product.

The exceeding simplicity and nominal cost of the operation for working Mr. Elmore's process must at once recommend it to the attention of copper extractors by the wet way—in fact, it must immediately supersede the present method of extracting by use of scrap iron, which is not only troublesome, but is over four times as costly in working as compared with Elmore's process. The new Elmore Dynamo-Electric Machine can be seen in operation in London, and is considered one of the most wonderful scientific apparatus which has yet been brought before the public; it should be inspected by all who are interested in any kind of metallurgical operations.

CARBONIC ACID IN COAL.

At the North Staffordshire Mining Institute meeting at Stoke-upon-Trent on Monday (Mr. John Brown in the chair) a paper read at a previous meeting by Mr. A. R. Sawyer, Assistant Government Inspector of Mines, in which he gave an account of an accident which occurred at the Fontaines pit of the Rochebelle Colliery on July 28, 1879, was discussed.

The President said in the Fontaines pit there appeared to have been an outburst of carbonic acid. Some doubt had formerly been expressed as to whether it was possible for such an outburst to cause an explosion, but that seemed now to have been set at rest.—Mr. J. Macdonald said this case appeared to be unique in its way.—The President observed that it appeared the district had been subject to something of the kind, although not previously to the same extent.—Mr. J. R. Haines noticed that the explosion took place in the No. 11 seam, and the question was whether that seam, which the shaft had crossed prior to the explosion, had been previously worked or not.—Mr. Sawyer said he thought it had not been previously worked at all, though the pit had gone through it.

In answer to further questions Mr. Sawyer pointed out that this liquified carbonic acid, if it was in a state of liquifaction, must have been subject to a tremendous pressure, the pressure to liquify carbonic acid being 566 lbs. per square inch. If it were in a solid state he should think the pressure would have been still greater, immeasurably greater. He thought it had not originated from old workings, and he had not heard it mentioned that any water had been given off.—Mr. J. Macdonald remarked that he did not think it likely they would be troubled with such a danger in this country.—Mr. Sawyer said he hoped not, but there had been a disengagement of carbonic acid in some of the seams in this country, though nothing approaching what took place at the Rochebelle Colliery. Still, it was better to be armed beforehand with the knowledge that there was a possibility of such a thing occurring.

The President asked if it exuded from the solid coal or from old workings only?—Mr. Sawyer replied that he believed it came from the solid coal—in some seams more than others.—Mr. J. Macdonald said in South Staffordshire there was more carbonic acid than in North Staffordshire.—Mr. Sawyer observed that in Saxony there was an immense quantity of carbonic acid given off in the workings, so much so that it affected the health of the workmen, and an interesting paper had recently been issued, containing an analysis of the disease to which miners were subject, owing to the development of this carbonic acid and coal dust.—Dr. Clowes, who was unable to attend, briefly expressed his views in writing as follows:—"The explosion at Rochebelle Colliery seems beyond doubt to have arisen from the sudden expansion of liquified (or at any rate highly condensed) carbonic acid, which had permeated a large mass of coal. The coal which withstood its pressure having been sufficiently removed to withstand it no longer the condensed carbonic acid expanded to the increased volume it must occupy under atmospheric pressure, and being present throughout the coal pulverised it in so doing. The lowering of temperature observed strongly support the explanation, as it is known that liquified carbonic acid whilst changing into gas produces such intense cold as to freeze much of the liquid. Further, gases which had until recently resisted all attempts to liquify them by artificial cold and pressure combined have now been liquified and frozen by the coal produced by their own expansion." A vote of thanks was accorded to Mr. Sawyer for his attendance.

NEW GREAT WHEEL VOR.

It is understood that the latest reports from this mine confirm the favourable opinions that have been formed as to the exceptional richness of this property. The following has been received at the offices of the company in London:—

New Great Wheel Vor, June 23.—At No. 1 point we have this week broken rocks of tin; splendid work, and only 7 or 8 fms. from the surface. The miners in the district are continually calling to satisfy themselves of the results, and they are surprised to find the rocks of tin that are brought up from so shallow a depth. . . . I have never seen so beautiful a lode so near the surface.

With these extraordinary developments before them the parties interested are satisfied that they have secured a property valuable in itself, and they are under no temptation to court the aid of professional directors, who too often are ready to make a market of their social or personal status. Even those who do not pretend to be absolutely in the confidence of the owners of this mine must recognise the fact that they are aware of the treasure they have found, and they are not too anxious to press the participation of their gains on the public.

BIRCHINGTON BAY FREEHOLD AND ESTATE COMPANY.

This company is announced with a capital of 150,000*l.* in 30,000 shares of 5*l.* each, the object being to acquire a freehold estate situate at Birchington-on-Sea, four miles west of Margate, and for laying out and developing it as a seaside resort. The property, which has a sea frontage of nearly a mile and is within a few minutes' walk of the Birchington station on the London, Chatham, and Dover Railway, has already had a considerable sum of money expended upon it in the construction of a sea wall and promenade, laying out roads, planting trees, &c., and it is now ready for development by the letting of eligible building sites and the creation of ground rents—a class of investment which has proved highly valuable in various parts of the country—many of the companies established for the purpose having issued their shares in several series, each after the first at a constantly increasing premium. The capital of the present company has been fixed at an amount which will enable it to assist builders and others with money on mortgage on the buildings during construction, thus assuring the rapid development of the estate, whilst the operation must prove highly profitable to the company. It is only proposed to call up 2*l.* 10*s.* per share, after which debentures can be issued on terms which will add to the value of the share capital.

The salubrity of the district is well recognised by the medical profession. There is a splendid beach, with a fine stretch of firm clean sand, admirably adapted for sea bathing, whilst the subsoil is chalk, and the neighbourhood possesses every requisite for making it a fashionable and popular seaside resort. The value of land in the neighbourhood has greatly increased of late years, and the property has been most carefully laid out with roads 50 ft. wide, planted with trees, and so arranged that almost every house will have a view of the sea, but suitable sites are reserved for squares and recreation grounds, church, chapel, market hall, &c. The property is so laid out that after the necessary outlay of 40,000*l.* on roads, drainage, sea wall, &c., there will be upwards of 20,000 ft. of building frontage, exclusive of reserved sites, which are estimated to bring in a rental of 9000*l.* a year, or capitalised at 22 years' purchase, 198,000*l.* as the value of the estate when covered, which will either give a permanent dividend of 15 per cent. per annum, or a bonus on realisation of over 100 per cent. after paying at least 6 per cent. per annum. The price to be paid by the company for the estate is 83,000*l.*, the vendor paying all expenses of forming the company.

THE AFRICAN GOLD FIELDS.

The shareholders in the Gold Coast Company, Effluentia, and other mines in the same region, will read with interest the subjoined extract from a letter, dated Axim, April 30, written by a gentleman, a valued correspondent of the Royal Geographical Society, now on the African Gold Fields, and who has had large experience with Africa. He says:—"I must admit that when I left England I shared to a great extent the scepticism of most old African traders as to the success of mining operations by Europeans in the Gold Coast Colony; but having now passed four months in the country, and visited all the mines at present at work, as well as many localities suitable for such operations, I have become fully convinced not only of the exceptional richness of the country, but of the certainty of the success of any company obtaining eligible concessions, and working them in a proper manner. If some of the companies at present established have not so far succeeded to the extent anticipated the delay may be attributed in some cases to errors of management, perhaps unavoidable, and in all to the great difficulties encountered in an almost unknown region, with the great additional disadvantage of a most unhealthy climate to contend against. Even simple prospecting is attended with very great difficulty, owing to the nature of the country, with its dense forests and almost impenetrable jungle; and whilst many concessions of great value have already been obtained it cannot be doubted that most of the richest spots have not yet been hit upon, even by the natives. These must be discovered in due time, and I feel confident that there is a great future in store for gold mining enterprises on the Gold Coast, and that the yield of the precious metal must within a very few years exceed the most sanguine expectations. The highly auriferous nature of the soil generally, as well as the vast number of quartz reefs running through the country, is something wonderful, and quite beyond the ideas I had formed before coming here."

RIO GRANDE DO SUL (BRAZIL) GOLD MINING COMPANY.—We draw the attention of our readers to the interesting report of the meeting of the shareholders of this company and their friends on Friday, June 17, to welcome Mr. Henry Clemes, of Cornwall, the founder of the Cape Copper Company, under the Messrs. Taylors, on his return to England from the Brazils, which appears in our columns this week. Mr. Clemes' report will be found in the advertisement columns. Samples of the rich gold ores brought over by Mr. Clemes can be seen on application to the secretary, 47, Finsbury Circus, on any day between ten and four.

WEST CARADON.—The report of the proceedings at the meeting of shareholders held on Friday last will be read with pleasure and satisfaction by the shareholders who were not present at that meeting. The independent report of Capt. John Roberts fully corroborates the high estimate which Capt. Richards and other competent authorities have formed regarding the capabilities of the West Caradon property. Capt. Roberts, who speaks with the authority of long experience, considers that the shareholders have a splendid property. On a recent visit to the mine he visited nearly all the principal points, and he estimates they are worth, in the aggregate, 62*l.* per fathom, and it will be seen that he expresses the opinion that if the mine continue to improve as it has done, in a short time it will be worth double that amount. There is not much question that Capt. Roberts is right in his conjecture that the old workers just picked out the eyes of the mine and then allowed it to collapse. That there is a very large quantity of valuable ore left in the mine is undoubted. On this point Capt. Roberts speaks in no general terms, but he gives in his report a valuation of the various lodes and points. Whilst in the neighbourhood Capt. Roberts also inspected the adjoining New West Caradon Mine, and expresses the opinion that it deserves a spirited trial, and that the shareholders will ultimately be well rewarded for their outlay and perseverance.

PELYN WOOD.—An influential company is being established to work this valuable mining property, which is divided into 12,000 shares. A limited number will be offered to the public. There is a good prospect of the mine becoming a great prize, the miners employed driving on the lode in the adit level having broken during the last few days several splendid stones of native grey and ruby copper ore, an assay of the latter producing 72 per cent. A short drive on this lode will intersect a cross lode east and west, and at this junction it is believed by all the old practical miners of the neighbourhood that great quantities of ore will be found. A similar junction is that where the greatest riches were found in the celebrated Lanes-

cot Mine, which is in the same highly mineralised strata, and embraces the same lodes. Those lodes in that mine returned to the shareholders about 300,000*l.* in dividends, and consequently good results are fully expected by the shareholders of this company.

EAST HERODSFOT.—Bewess lode, lately discovered in this property, presents as fine an appearance on the back of any lode yet seen in this district. Rocks of gossan of the true kind, with spots of silver-lead ore, indicating large deposits at a shallow depth. A cross-cut adit is being driven to intersect the lode at a depth of 10 fathoms, when the adit can be continued on its course, reaching a depth from surface of over 40 fathoms available for stoping the ore. There is every chance, in the opinion of practical miners, that great discoveries of silver-lead will be met with in this adit, thus affording unusual facilities for working at a small cost. The shareholders may be congratulated on possessing such a valuable mine, and profits equal to those obtained at the old Herodsfot will it is confidently thought be made.

WHEEL FORTUNE (Harrowbarrow).—In deepening Bennett's eastern shaft, which is sunk on the Wheel Brothers silver lode, a branch has been discovered at 28 fms. from surface, containing silver-lead, native silver, and sulphide of silver, an average assay of the first sample from which gives 555 ozs. of fine silver to the ton. It is valued at about 150*l.* per fathom. When the shaft has been sunk another 2 fms. levels will be driven east and west along the course of the lode, and it is expected that the ground thus opened up will prove very rich for silver.

IRISH MINES.—Our correspondent, after visiting Bantry and its beautiful bay, extended his journey to Glengarriffe, and the lovely scenery of that world-renowned district, and sends us the following interesting sketch:—"Meeting a fellow-traveller in Bantry who had never seen the wonderful and beautiful scenery of Glengarriffe, we made up our minds to have a sail across one of the most noble bays in Europe to that far-famed spot. After a short time we found Jerry Hurley, an old salt, who designates himself "Pilot by the grace of God." Jerry arranged the terms for boat and crew, and we had a most delightful sail from Bantry to Glengarriffe. Landing on the north-east corner of Whiddy Island, we observed a curious formation of black carboniferous slate, forming a large east and west lode, from 10 to 15 ft. wide. This remarkable formation is in thin vertical layers, and the carpenters and sawyers of Bantry and surrounding districts use it instead of blacklead pencils for marking timber, &c. Small pieces we saw cut out strongly resemble Spanish chalk or crayons. Whether it contains sufficient plumbago to make it of value as the blacklead of commerce we had no means of ascertaining. Suffice it large quantities of it could be raised and shipped at about 6*s.* or 8*s.* per ton. Arrived at "the Eccles Hotel," we enjoyed every luxury and comfort. We shall not attempt to describe the scenery, but would suggest to all our friends to do as we have done—viz., "Come and see for yourselves." We may remark, however, that a very interesting old ruin still exists as "Cromwell's Bridge." According to tradition, and we believe it is a historical fact, that when "Oliver" was on his march to the extreme south-west of Ireland his *edicta* reported that the rivers near Glengarriffe were impassable for troops. Oliver at once sent peremptory orders to "the O'Sullivan Bere," Prince of Berehaven, to whom he was about to pay a visit, "that if he did not build a proper bridge for the passage of his troops in 24 hours he would hang O'Sullivan and all his followers," and the bridge was, accordingly, completed within the time specified, the ruins of which, a most picturesque sight, we had the pleasure of viewing. After a delightful sojourn at Glengarriffe we again crossed the bay to the south side, and landed at "Blue Hills," which are formed of huge masses of blue clay, and contain an immense quantity of small cubes of iron pyrites. Going to the west we again passed the newly-discovered "Lisheremig Silver Mine," as the public road goes through it; and since our former visit a very important discovery has been made in sinking the shaft, from which we saw magnificent specimens of chloride of silver, &c. In the course of our journey west from Lisheremig to the wild and remote district of "Sheep's-head" we had a look at valuable mineral properties, which we intend shortly to notice. The capitalist is perfectly safe in this country, of which we have had abundant proofs.

GOVERNMENT INSPECTION OF MINES.—The reports of the Government Inspectors of Mines for 1880 have just been issued, and are decidedly unfavourable as compared with those of the preceding year, but less so as compared with 1878. It appears that during the year there were 484,933 employed under the Coal Mines Regulation Act, and 52,908 under the Metalliferous Mines Regulation Acts—537,841 in all. The total accidents were 897, and the total number of deaths occasioned thereby 1402, showing an increase of 54 in the number of fatal accidents, and of 365 in the number of lives lost. During 1880 there was one separate fatal accident amongst every 539 persons employed, and one death by accident amongst every 383 persons employed. There were 28 explosions, resulting in 499 deaths; 145 falls in mines, resulting in 462 deaths; 77 accidents in shafts, resulting in 91 deaths; 177 miscellaneous accidents underground, resulting in 178 deaths; and 88 miscellaneous surface accidents, resulting in 88 deaths. The usual tabulated summary will be published in next week's Journal.

SALE OF PARKEND COLLIERIES IN DEAN FOREST.—These collieries, closed in the spring of last year, have a length been disposed of, and a substantial deposit was paid a few days ago to Mr. J. W. Sulby, of Queen Victoria-street, London, the official liquidator. The collieries are extensive, and were for many years carried on by the Parkend Coal Company, of whom Mr. Sulby, sen., of Bridgewater, stood at the head. The purchasers are Messrs. Lentner, Edelstein, and Mathews (London), who have made temporary arrangements with Mr. S. J. Thomas, the former manager, whereby the pits are to be restarted forthwith. As nearly 800 employees were discharged when the collieries were closed the restart will be regarded with immense interest, and will help to resuscitate some degree of prosperity in the western district of the Forest, where the property is located.

IMPORTANT SALE OF COLLIERY PLANT.—Messrs. Stephenson and Alexander (Mr. D. T. Alexander officiating) put up for sale by public auction on Wednesday and Thursday a quantity of valuable colliery plant, machinery, wagons, tools, and other materials at the Gellygaer and Llancallach Collieries, which were formerly worked by Powell's Gellygaer Colliery Company, but which have been abandoned on account of the exhaustion of the coal worked by the company. The sale will be continued to-day (Friday). On Wednesday there was a very large attendance of buyers from all parts of the country. The bidding was brisk, and the prices realised surprised not a few on the ground. The auctioneer commenced at Llancallach Colliery. Here tram plates realised from 2*l.* 17*s.* to 2*l.* 18*s.* per ton. Coal trams, 3 ft. 4 in. gauge, to hold 25 cwt., were sold at from 12*s.* to 13*s.* a piece; wrought iron winding chain, 60*s.* per ton; scrap iron, 2*l.* 3*s.* per ton; cold blast sleepers at 5*s.* 6*d.* per ton; a permanent road weighing machine, 4 ft. 8½ in. gauge (by Pooley and Son, Liverpool), to weigh 15 tons, sold for 40*l.*; a Cameron's patent steam pump, by Tangey, Birmingham, was knocked down at 70*l.*; a pair of horizontal hauling engines, 12 in. cylinder 2 ft. stroke, by J. and W. Leigh, Pancroft, built in 1857, at 57*l.* 10*s.*; Cornish boilers at about 20*l.* each; a donkey engine for feeding boiler, 8 in. cylinder, 4 in. ram, 12 in. stroke, by Appleby and Sons, at 14*l.* 10*s.*; a low pressure condensing winding engine, with fittings, at 49*l.* On the second day of the sale (Thursday) there was again a very large attendance of bidders. Occasionally the competition ran very high. Business was commenced at mid day with the sale of the siding rails, and then the wagons were disposed of in lots of three, to suit purchasers. Although in the case of old wagons no very high price was realised, those in good condition fetched 20*l.* to 23*l.* Cast tram wheels were purchased at 50*s.* per ton. A horizontal hauling engine, 16 in. cylinder, 24 in. stroke, with fly-wheel, shafting, &c., was sold for 50*l.* A low pressure Cornish pumping engine with expansion gear, 8½ in. cylinder, encased with 9 in. brick and 4 in. hair, 10 ft. stroke, by Messrs. Harvey and Company, of Hayle, was put up for auction. This engine, the auctioneer announced, had been from nine to ten years in use, and it had not cost the proprietors anything for repair. The bidding was started at 400*l.*, and gradually rose to 500*l.*, and from that figure to 600*l.* It advanced by fifties to 900*l.* Then the bidding was 920*l.*, 940*l.*, 960*l.*, 970*l.*, 980*l.*, 990*l.*, and the engine ultimately became the property of Mr. Sykes, of Liskeard, who subsequently purchased four 36 in. Cornish boilers, 6 in. diameter, with fittings complete. A pair of horizontal capstan engines, 14 in. cylinder, 24 in. stroke, with reversing gear, 7 ft. diameter, by the Uxside Engine Company, 1869, realised 180*l.*; and a horizontal hauling engine 52 in. The egg-end boilers brought in 80*l.* A vertical winding engine, with equal beam and parallel motion, was sold for 40*l.* Amongst the largest purchasers we observed the following:—Messrs. Brown, Lennox, and Company; Powell's Duffryn Company; Messrs. J. and S. Sons; Mr. H. W. Lewis, Treherbert; Mr. George, Bristol; Mr. Buggins, Birmingham; Mr. Shepherd, Wolverhampton; Mr. James Thomas, Porth; Mr. Sykes, Liskeard; Mr. Matthews, Liskeard; Messrs. Harvey and Company, Hull; Messrs. Clements and Son, Redruth.

IRON WEIRS AND IRRIGATION.

The question of irrigation has ever occupied a prominent place in connection with Indian matters, and the result has been that preferable suggestions have come from India, one of the most important being that of Major Gen. Francis Applegath, of the Madras Staff, and now of Blomfield-street, W., and it is confidently believed that his invention would be equally applicable in this country. It is justly urged that the construction of iron weirs in England can be carried out very quickly. They can be placed obliquely across rivers if that plan is proved to be better than the simple one of placing them across the stream, and the openings in the body of the weir can be made so as to represent an iron rake, offering very little resistance to the flow of water. The rivers in India that have stone weirs built upon them have most silted up to the crown of the weir; a little deposit of sand or silt is no objection, as it secures the stability of the weir; but it is highly detrimental to have such an accumulation of sand and silt. The value of iron weirs for India is beyond question, and perhaps it is as well to take into consideration the subject of iron weirs in the event of new weirs being required for the supply of water to London. The expeditious manner in which iron weirs can be manufactured in England, and fixed in the river bed is also a strong point in their favour.

The precise construction will of course vary slightly with circumstances; thus for small or temporary weirs, that may be readily removed from one point of a stream to another, Major Gen. Applegath constructs the same of upright cast or wrought iron sheets or plates of convenient lengths rivetted or bolted together, and strengthened by ribs, flanges, or stays, the plates being sunk to any required distance into the bed of the river, and being by preference bevelled off to a thin edge at bottom to facilitate their penetration. At the surface of the bed they have by preference fixed or formed on them horizontally projecting flanges, either on one side or on both sides, for increasing their stability, and to serve on the overflow side as an apron for preventing the falling water from undermining the bed. Such apron may extend some distance in front of the weir, and may be fixed down on the bed by projecting ribs entering the soil, or by screw or other piles to which the apron is fixed. A flange projecting upwards may also be formed at the end of the apron, so as to retain a certain quantity of water upon the same, and thus break the force of the water falling upon it. The weir may have apertures at one or more points of its length for allowing a stream of water to flow through, and such openings may or may not be provided with doors or valves to act as sluices.

In the majority of rivers the engineering difficulties would not be great, and Major Gen. Applegath gives ample detail to meet them when they do arise. According to one modification he constructs the weir or annulet of wrought or cast iron plates, rivetted or bolted together so as to form a hollow wall of any required thickness, which is then filled in solid with concrete, brickwork, sand, or rubble. The wall is supported upon a foundation of either screw piles or of brick cylinders sunk into the bed of the river. He provides the same with under sluices closed by doors, by opening which a sufficient scour of water may be obtained to wash away any accumulation of silt that may occur in front of the weir. By preference he forms such under sluices as narrow V-shaped openings in the weir, in which are fitted corresponding wedge-shaped pieces constituting the doors, which are secured in the openings by their wedging action. The lower part of the weir may be extended some distance in front, so as to constitute an apron, and it may be provided with a ridge at the end, so as to form a shallow basin to retain a certain depth of water upon it for the before mentioned purpose. A further extension of the apron may be formed by iron sheets or plates, as in the first described arrangement.

It will of course be obvious that plates or sheets would make a light and easily constructed weir, but Major Gen. Applegath does not limit himself to the use of these. Sometimes he forms the weir as a hollow or tubular iron structure serving as a tunnel for allowing communication from one side of the river or canal to the other, and which may be protected against the action of the water by rough stones placed on each side. The bottom of the tunnel may be raised a sufficient distance above the bed of the river to allow of under sluices being formed beneath the same, the doors to which may be conveniently worked from inside the tunnel. An apron may be formed on the overflow side of the weir in the same manner as described in the previous arrangement. According to another arrangement he constructs the weir or annulet of a number of vertical iron bars or tubes placed at small distances apart across the river, and tied at top and bottom by cross bars or beams, the weir being thus made to act as a grating through the interstices of which the water and sand or silt may flow. In combination with the said fixed bars he employs other moveable bars, constituting a sliding grating, by means of which the apertures between the fixed grating can be more or less closed, and thus the flow of water through the same be regulated.

The invention has been highly approved in India, and one of the best authorities there with reference to the liability of artificial canals to silt, and give rise to obstruction or great expense for the clearing, remarks that to obviate this Major Gen. Applegath proposes to utilise Nature's work by adopting the course she marks out by the rivers, and to regulate the course and flow of the water by artificial means. These means are the construction of canals in the beds of the rivers themselves; and these canals he would form by the use of iron plates to form annulets, sluices, aprons, &c., so constructed as to be moveable and capable of regulation according to the state of the rivers in flood or otherwise. Thus, when the rivers are in flood the annulets could be removed or opened, and when the waters begin to fall, instead of letting them flow wastefully to the sea, or spread themselves uselessly over broad shallows, they would be turned into, or confined in, narrow navigable canals, which would be available for traffic during the greater part of the dry season, and could be used either for goods or passenger traffic by wind or animal power, or even by steamers constructed for the purpose, which might carry passengers at reasonable speed, or draw "trains" of boats laden with merchandise that could be carried at such rates as would place Indian produce in the market on terms to compete with the Western States of America, or other countries which at present cut India out of open markets, because she is heavily handicapped in her inland carriage. The projects of General Applegath indicate a sufficient departure from previous projects to warrant a trial being made on a small scale, and it might be tried on a scale so limited that even a small company might well undertake it, with fair concessions from the Indian Government. And now that the attention of British capitalists has been turned to the auriferous deposits of India these observations are still more important, for without doubt an abundant, and above all a regular, supply of water (for the fact of a locality enjoying a fall of 300 inches a year if it all fall in a few days or weeks is of no industrial advantage) will do much to ensure the permanent profit so anxiously looked forward to.

IMPROVED PUDDLING FURNACES.—It is proposed by Messrs. JONES and HOLT, of West Bromwich, to construct the bed of the puddling chamber of the furnace mainly of two bottoms—of a lower or false bottom, and an upper bottom constituting the true bottom of the bed of the furnace, the two bottoms being arranged parallel to one another, and a short distance apart, so as to form between them a flat air chamber. The false bottom is supported upon pillars or upon masonry, and the true bottom is supported upon notched longitudinal bearers on the false bottom. The ends of the false bottom are perforated, so that blast suitably supplied may enter the perforated flue bridge end of the bed and pass into the air chamber between the two bottoms, and from thence to the perforated fire bridge end. The flue bridge is made hollow, or tubular, and communicates at its middle with an air passage in the flue bridge end of the bed. The ends of the said hollow flue bridge open into flues or passages made between the jamb plates of the bed and the sides of the furnace, and by the circulation of the air through the side flues or passages the jamb plates are kept cool. The fire bridge is also made hollow or tubular, and is perforated at that face which is presented to the fireplace of the furnace for supplying air or blast to the fireplace. The said hollow fire bridge is in communication at its bottom with the

perforated fire bridge end of the false bottom of the puddling chamber, and the ends of the fire bridge open into flues in the side walls of the fireplace, and by means of perforations or slits in the side walls air or blast in the form of jets or sheets may be supplied to the fireplace. At the rear end of the furnace, and opening into the perforated flue bridge end of the false bottom, is a chamber supplied with air under pressure preferably by a fan.

MANUFACTURE OF IRON AND STEEL.

The second part of the Abridgements of Specifications relating to the Manufacture of Iron and Steel* extends from 1867 to 1876, both years inclusive, and, therefore, embraces many of the inventions which have played the most prominent parts in bringing about the revolution in this branch of industry which we have recently seen. There are, for example, no less than 13 of Bessemer's inventions, as well as those of Barff, Cowper, Crompton, Danks, the Terre Noire Company, Henderson, Ponsard, 21 of Dr. Siemens's, and many others, the patents for which have been obtained in names equally familiar to the members of the iron trade. It is remarked that the scope of the present volume comprises all processes for the manufacture of cast-iron, steel, and malleable iron, as well as the special qualities of metal; also the production by rolling of sheets, plates, rails, rods, bars, angle iron, &c. Ample reference is made to all furnaces and kilns particularly applicable to the production of iron and steel, excepting where the inventions are restricted to methods of effecting combustion, utilising waste heat, or economising fuel, which inventions come within another class. There are about 80 inventions alluded to which refer to preparing ore and oxides for reducing or smelting, and these are sub-classified according as they refer to agglomerating with fuel, fluxes, &c., with or without heat, calcining, dressing, separating them from other substances by magnetism, or purifying by miscellaneous processes.

For puddling and puddling furnaces there are almost exactly 300 inventions, of which details are given, these coming under the heads of beds and fettling for puddling furnaces, doors and door frames and screens to protect from heat, general construction, constructing ordinary rables and paddles, general processes of puddling, puddling in course of producing cast steel, and in treating reduced metal, using tubular rables and injecting tubes, mechanical rables, injecting rables, oscillating beds and vessels, revolving beds and pan-shaped rables, revolving chambers, and so on. In connection with processes for purifying iron and steel there are nine involving the use of electric currents, a subject that might, perhaps, be revived now that electricity is produced so much more cheaply than formerly, and a large number of general processes. For the production of cast steel there are about 500 processes described, and there are some 20 patents for producing spiegeleisen and ferro-manganese. All the necessary material for discussing the merits and novelty of the various two and three high rolls systems will be found; and a pair of geniuses—Messrs. Jones and Thomson—claim advantage for a pendant bosh which whistles when it is defective. If every new invention could be made to whistle under similar circumstances what an enormous saving of money ironmasters might effect. The volume is one which every superior officer in iron or steel works should possess himself of if he desires to avoid travelling over already explored ground which has been proved worthless, and it may safely be declared that however much experience an officer may have had, he may easily obtain 5s worth of advantage from the abridgements.

* London: Commissioners of Patents Sale Department, Cursitor-street.

THE FIRST LOCOMOTIVE BUILDER.

Although no one would desire for one moment to ignore the credit due to GEORGE STEPHENSON for his labours in connection with the establishment of railways, it would be equally unfair to permit the names of those who assisted or preceded him in the useful work to be forgotten. The readers of the earlier numbers of the *Mining Journal* when the railway system was being introduced will be familiar with the name of William Hedley, of Wylam, and although he has now passed away, so that no honour conferred upon him any pleasure, his three sons—Messrs. Oswald, William and George Hedley—naturally desire to perpetuate their father's memory as the constructor of the very first successful locomotive engine, and as the discover of the important fact—which alone rendered the success of the railway system possible—that when at work the adhesion of smooth wheels upon the rails was sufficient to produce progressive motion. In claims of this kind there is not unfrequently a disposition on the part of the general public to assume that the claimant, and those immediately connected with him, are partial, and, therefore, not altogether reliable, authorities, and it must be acknowledged that confirmatory evidence from a presumably adverse source is in every respect preferable. In the case of William Hedley, there is not only the evidence afforded by the publications of the day, but also that which has fortunately been incidentally furnished by the biographers of George Stephenson and other engineers of the beginning of the century; and the only conclusion that can be drawn is that had William Hedley's engineering skill and carefully made experiments not been available at Wylam, George Stephenson would have remained an ordinary colliery engine tender, and the introduction of railways would have been long delayed.

As a practical biographer of George Stephenson perhaps Michael Reynolds, the "Engine Driver's Friend," is even more reliable than Samuel Smiles, who from his position in the railway world was more likely to derive his information from the friends of Stephenson to an extent which would lead to the exclusion of reference to other workers in the same field from the abundance of material in hand concerning the main subject of the memoir. Yet both Smiles and Reynolds make honourable mention of Hedley, and the latter, although evidently a warm admirer of Stephenson, has incidental allusions to Hedley, which bring him somewhat nearer the prominence to which he is unquestionably entitled. Reynolds* devotes an entire chapter to William Hedley and the plain rails, and gives diagrams of Hedley's test carriage, which demonstrated the practicability of smooth wheels on smooth rails, and remarks that "great credit is due to William Hedley for this discovery, this great discovery;" and he in the next chapter deals with Stephenson "the seventh champion on the roll." In his sixth chapter Mr. Reynolds says—As we have faithfully traced the progress of the engine, it was not necessary up to this point to make mention of the name of Stephenson since he had no connection with the locomotive until some time after it was put to work on the Wylam Railway under Mr. Hedley, who made the way for Stephenson, and gave him a good start at Killingworth. For several years he had watched the working of the Wylam engine, and had an idea that he should like to make one for the Grand Allies the owners of the Killingworth Collieries where he was employed; and in the same chapter he remarks that it was to the Wylam people that Stephenson was at first indebted for everything pertaining to the locomotives, and as locomotives had been working and had passed him on the road close to his home he had every opportunity of making himself thoroughly acquainted with what they could do, and what they could not do, before heating a rivet for his own engine.

Referring to the Killingworth engine, Mr. Reynolds remarks that the locomotive engine had already been invented, six individuals had before him experimented upon it, the last of whom was Hedley, and he had made an efficient and economically working locomotive. Stephenson's engine was a failure, and it was naturally asked—Why have meddled with the engine at all? Why not have consulted Hedley at first? He was at the neighbouring colliery with his engine, and to add to the vexation Hedley's engines were going well; they were at all events more powerful, and they gave no such trouble as this "Blucher" did. It was in endeavouring to avoid the noise which his engine made, and at the same time to avoid using Hedley's chamber in front of the boiler, that Stephenson exhausted directly into the chimney; but it is worthy of remark that although this was a great step in advance Stephenson seems so fully to have recognised that it was but a modification of Hedley's arrangement that he did not patent it. Hedley's engine with the return flue is now in the South Kensington Museum, and demonstrate the excellent progress he had made. It was only in 1828 that Stephenson employed a return flue boiler, whilst Hedley had done so in 1815—he was not only

* "The Model Locomotive Engineer, Fireman, and Engine Boy." By MICHAEL REYNOLDS. London: Crosby Lockwood and Co., Stationers' Hall-court.

will to copy, but to listen to any practical suggestion, and by doing so he planned the Rocket engine with horizontal flue tubes. This was really the commencement of the present locomotive type, and from what has been here stated it will be acknowledged that Hedley was entitled to even more credit than Stephenson in the matter. The whole narrative as given in Mr. Reynolds's book is well worth reading.

RICHMOND CONSOLIDATED.—A dividend has been declared of 12. per share.

BRATSBURG COPPER MINES.—We understand that Mr. Matthew Loam, the well-known engineer, proceeds to these mines next week, to decide on the necessary arrangements for boring machinery. This shows that the directors are not losing time in carrying out the objects of the company.

A BIG NUGGET.—A mass of ore has been recently discovered in Siberia, in the mines of the brothers Trapeznikoff, which was found on trial to be of pure gold, and to weigh no less than 58 lbs.

THE COAL FIELDS OF NATAL.—The existence of various and prolific seams of anthracite and bituminous coal, some 10 ft. or 12 ft. thick, is confirmed by Mr. F. W. North, F.G.S., who has just returned from an investigation of the coal deposits for the Natal Government. He has found that, although about 4 tons of Natal coal are required to do the work of 3 tons of English, the former is well adapted for locomotive and general steam purposes. It is suggested that the possibility of using cheap local fuel, instead of costly English coal in these distant colonies, must give a great impetus to railway construction, and in Natal will provide a better and more expeditious highway to the Transvaal and Orange Free State. The Railway Bill for the expenditure of 5,000,000*l.* upon railway construction in the Cape Colony, which has just received the sanction of the Assembly at Capetown, is intended by one of the main lines to open up the coal fields of that colony, therefore after considerable delay these coal deposits are now about to be placed in direct communication with the coast and the diamond fields.

LIQUID FUEL.—The generation of heat with petroleum, it is proposed Mr. B. N. HUESTIS, of Shanghai, to burn that material either, crude or refined, over or in connection with a bed of calcium, or of common lump lime. The usual boiler, fire-box, and a blower are employed. The blower is provided with a cock by which the supply of oil may be regulated. In operation, the boiler being filled with water, a sufficient quantity of broken lime is placed in the fire-box to cover its bottom, and enough oil then run in to saturate the same. To ignite this, a small piece of lime is taken, and after wetting it with oil it is lighted with a match and applied to the furnace; the blower is then turned on, the supply of oil being regulated according to the size of the furnace. The quantity of lime employed will depend upon the size of the fire-box. It is desirable that enough be used to form a thick bed, although a result will be effected when even a small quantity is employed.

PUDDLING FURNACE.—The object of the invention of Mr. JOHN JONES, of West Bromwich, is to construct a puddling furnace that three puddlers can work thereat at the same time, so saving a large amount of fuel and materials, and a greater amount of puddled iron can be produced at a much less cost than in furnaces as at present arranged. By preference the shape of the improved furnace is an oblong, having two of its corners cut off, and this is for better enabling the puddlers to work their metal and to prevent the possibility of any portion of the metal, when in a soft state, becoming wedged in the sharp corners. The other portions of his improved furnace are for the most part similar to those now in general use, except that the stack or flue is built upon the top of the said furnace so as to make room for the third puddler. Hence it will be understood that one puddler can work at a door in the front end of the furnace, and one through doors fitted on each side of the furnace and opposite to each other.

TO MINING ENGINEERS.

WANTED, a Gentleman of experience and position, to REPORT ON and, if capable, to TAKE CHARGE OF EXTENSIVE GOLD MINES IN SOUTH AMERICA. A knowledge of Spanish desirable. Address, with full particulars and terms required, to J. C. HANDFIELD, Esq., St. Stephens Chambers, Telegraph-street, London, E.C.

WANTED, a COMPETENT, PRACTICAL, AND CIVIL ENGINEER, TO TAKE CHARGE OF DIAMOND MINING MACHINERY at the CAPE. One used to railroads preferred. Apply by letter, with testimonials, to "J. O. S.," 31, Hatton Garden, E.C.

WANTED, by an Amalgamator and Millman for Gold, an ENGAGEMENT anywhere healthy. Twelve years experience in North Queensland. Can erect and work any Gold Saving Machinery, also keep it in repair. Forty years of age; twelve months in England. Address, "G. G.," 12, Chantler Road, Custom House, Victoria Docks, E.

WANTED, by an Associate of the Royal School of Mines, a SITUATION in any part of the world (India preferred) as a REDUCTION OFFICER, GOLD or SILVER. Address, "C. W.," care of H. L. Phillips, Esq., 5, Copthall Buildings, London. Testimonials exceptional.

WANTED, for a Young Man who has had considerable experience in METALLURGICAL PROCESSES and CHEMICAL ANALYSIS, an APPOINTMENT IN WORKS, where his experience and energy could be utilised with a VIEW to a PARTNERSHIP. Large available capital. Apply, "A. B. C.," MINING JOURNAL Office, 26, Fleet-street, London.

ENGINEERMAN WANTED by a MINING COMPANY in SPAIN. A preference given to one who knows Spanish. Address, "R. G.," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

A PRACTICAL MINING AGENT, 36, holding good certificates for machinery, desires EMPLOYMENT where he could make himself generally useful. Drawing, Dialling, Assaying, French, and German. Worked nine years underground. Address, "Miner," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

TO PROMOTERS AND DIRECTORS OF PUBLIC COMPANIES.

A GENTLEMAN of large experience undertakes to perform the DUTIES OF SECRETARY TO PUBLIC COMPANIES for a fixed annual sum, including Office Rent, Clerks, and current expenses. Testimonials unexceptionable. Address, "N. M.," care of Messrs. Kensington and Co., 2, George-street, Mansion House, E.C.

A MINING CAPTAIN SEEKS EMPLOYMENT AT HOME OR ABROAD. Is thoroughly practical from youth, now forty-one. Has been Miner, Agent, and Manager of Mines in Cornwall, Devon, Wales, and Ireland. References, testimonials, or interview. Inspections undertaken. Apply to "Engineer," 21, Hatfield-terrace, Carnarvon, North Wales.

A N EXPERIENCED ASSAYER AND ANALYST, with a practical knowledge of Mining Operations (has worked underground), and holding high-class testimonials, SEEKS A SITUATION AT HOME OR ABROAD. Apply, "W. H.," Morning News Office, Camborne, Cornwall.

METALS.—A Gentleman having a first-class connection in BIRMINGHAM among Consumers is DESIROUS OF REPRESENTING A GOOD HOUSE ON COMMISSION. References and security. Apply by letter, "D. E. F.," MINING JOURNAL Office, 26, Fleet-street, E.C.

TIN MINE TO BE DISPOSED OF ON REASONABLE TERMS. Good district, and easily worked by water power. Seven lodes discovered. Rare opportunity. Address, "A. B.," Post Office, Redruth, Cornwall.

FOR SALE, a PUMPING AND WINDING ENGINE, in excellent condition, 30 in. cylinder, 8 ft. stroke in and 7 ft. out, two bobs, fly wheel 20 ft. diameter, wrought iron shaft, new nozzles and valves. Apply to Capt. BENNETTS, Tregeseal House, St. Just.

PROMISING MINES.—WANTED AN OFFER FOR—150 TREVINCE CONSOLS. 100 EAST DEVON CONSOLS. 200 NORTH HERODSFOT. A sale of the above Shares being imperative, no reasonable offer will be refused, regardless of quoted prices. Two days required for reply, as the seller resides distant from London. Apply to "A. B. C.," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

THE GREAT WESTERN STEAMSHIP COMPANY, LIMITED.

ISSUE OF ORDINARY SHARES AND SIX PER CENT. PREFERENCE SHARES.

NOTICE IS HEREBY GIVEN, that the LISTS will CLOSE on SATURDAY, July 2nd.

Prospectuses and Forms of Application can be obtained from the Secretary, Grove Avenue, Queen Square, Bristol.

MARK WHITWILL AND SON, Managers.

CHARLES W. CLIFT, Secretary.

Bristol, June 13, 1881,

ALFRED E. J. TREGAY,

MINERAL BROKER AND GENERAL COMMISSION AGENT,

ROCHE, CORNWALL.

CHINA-CLAY. OCHRES. GROUND MINERAL COLOURS.

Correspondence solicited.

RIO GRANDE DO SUL (BRAZIL) GOLD MINING COMPANY (LIMITED).

TO THE DIRECTORS.

GENTLEMEN,—I have the honour to submit to you the following particulars of your properties situated in the district of Capacava, in the province of Rio Grande do Sul, as the result of my observations during the time I spent there in discharge of the mission which you entrusted to me.

The ground on which these mines are situated is about 850 to 1100 ft. above the level of the sea, and being out of the tropics in latitude, enjoys a most salubrious climate at all times of the year.

LAVRAS ESTABLISHMENT.—The headquarters and reduction works of the first company were established close to the village of Lavras, on the left bank of the River Camacua, which flows about 30 ft. below; here are the chief buildings, containing offices, dwelling-houses, stores, stables, &c., and here is deposited the immense accumulation of costly machinery bought by the old company, an inventory of which I handed to you. I will only say of this machinery that I can well believe that three-quarters of the capital of the Brazilian Company (the vendors, or say, £60,000, were expended in its purchase and transport (one item alone, the disintegrator—must have cost several thousand pounds), and that it is lamentable to see such an utter waste of money. Most of the machinery is ill adapted to the purposes required, and if any of it is ever erected it ought certainly not to be on the spot where it now lies.

STRECK FOR REDUCTION WORKS.—I consider that the present site is ill adapted for the reduction works of this company for these reasons:—First, because it is too far distant from the principal mine, the ores from which would have to be brought four miles over a hilly country; and, secondly, because during a considerable part of the dry season the supply of water in this part of the river is, I estimate, not more than sufficient to drive from six to nine heads or ordinary stamps. I shall be able to indicate the site which I consider the most eligible, being only a third of the distance from the chief mine, and possessing a greatly increased water-power.

My time being naturally limited, I confined my observations to the Aurora, Serrito, and Vieira Buena Mines, and the Lagoa. The Aurora property being the only one on which operations were being carried on at the time of my visit, commanded the most of my attention.

SERRITO MINE.—This mine is situated about two miles from Lavras. I have examined the workings, or rather trial pits, which have been made here, and it is enough that I should say that it presents many favourable features, and is well worthy of further development. This I should not hesitate to undertake at once, were it not that you have a much richer and more promising mine in the Aurora, and one which will demand all your energies.

LAGOA.—This is a succession of long still pools in the bed of the river Camacua which has had a high reputation or tradition for containing large quantities of gold, and with a view of extracting this, expensive works, such as dams and a canal, were made by the old company, who also imported an engine for the purpose of pumping out the water.

The result of these operations was, so far as I could learn, unprofitable, and from this fact and from my own observations, I do not advise the company to prosecute this work for the present.

AURORA MINE.—It is situated about four miles N.N.E. of Lavras, from whence the road winds its way over an undulating country. This road would require a large outlay, here it could be used as a regular continuous road for the transport of ores.

The mine itself consists, first, of surface, disintegrated felspathic rock highly granulated; this has been stripped off to a depth of from 15 to 30 ft. to the indurated rock below, and underneath this an open cutting on the course of the lode 60 ft. long, bearing nearly east and west, is wrought to a depth of 30 ft., with two windlasses fixed over the same, thus laying bare the lode for a considerable distance. At the bottom of these works sinkings have been worked in the most unmineral-like form imaginable, being also the most costly way of extracting the ores. Besides these workings two adits have been commenced, the upper or No. 1 adit, which is at a depth of 10 fms. below the bottom of the open workings, has been driven in a straight line for 35 fms. in length, at which point there is an air shaft, and here the lode is also seen, and presents favourable indications. From this shaft the adit, for some reason which I do not understand, has been directed off to a north-easterly direction for a further distance of 30 fms. The lower, or No. 2 adit, has only been driven 15 fms., and is at a level 14 fms. below No. 1.

DESCRIPTION OF LODE.—The Aurora lode runs nearly east and west, and dips north from 65° to 75°, being a most favourable angle. The country rock is felspathic gneiss, and the lode is interspersed with chlorite, iron pyrites, and other favourable ingredients.

The entire width of the lode, judging from its upper portion, ranges from 20 to 30 ft. The most regular vein is confined to the northern or hanging wall, throughout which visible gold occurs; obliquely with the vein junctions of lenticular auriferous masses of lodey matter form, which either enlarge the vein or impinge on it, thus materially affecting the commercial value of the mass. The width of this auriferous vein varies from 6 in. to 2 ft., which, with the oblique reunions, represents from 6 to 8 ft. wide, but from 2 to 4 ft. is about the average width of saving or profitable ores.

In its present limited workings this lode certainly presents most promising features, and I have every reason to expect that it will improve in character with increasing depth.

About 13 cwt. of ores from these workings were forwarded to London, and have been received and opened in my presence. A considerable portion of these ores present a very rich appearance, and on the whole being crushed by Messrs. Johnson and Sons, also in my presence, the average yielded gold 64 ozs. 13 dwts. 6 grs.; and silver 17 ozs. 5 dwts. per ton of 20 cwt.

I estimate that there are now deposited near the entrance of the workings about 150 tons of ordinary stamping ores which have been extracted by the present company.

I now recommend that as quickly as possible a shaft should be sunk on the lode in continuation of the present sinking to a depth of 15 to 20 fms., and levels be extended east and west on the course of the lode. Simultaneously with this operation No. 1 adit should be driven to communicate with the proposed shaft and extended to the west on the course of the lode. This work would cost about £3000, and would occupy about six or eight months, but in the meantime a considerable value would be obtained in the output of ores. By these joint workings I compute that a very large amount of profitable ores would be laid open.

While this work was proceeding a careful survey should be made, so as to fix the exact spot which would be suitable for the erection of the new reduction works. The place which my own observation indicates as most suitable is distant about 1½ mile from the mine, and a narrow way should be laid for this distance, for which the country presents no obstacles, and here the wrought-iron water-wheel now lying at Lavras might be erected, together with the requisite number of stamp heads. As I have already mentioned, the River Camacua contains considerably more water at this point than at the village of Lavras.

Native labour sufficient for all ordinary work in and out of the mines can be obtained at about 3s. 6d. to 4s. a day, and Europeans, such as Swedes and Norwegians, who I found the best, can also be met with at, of course, higher rates—say 6s. to 8s. a day.

As regards the title, I have every reason to believe that the same is quite clear and good.

In conclusion, I estimate that with an additional capital of about 25,000£, the Aurora Mine and the reduction works could be completed, and brought into a profitable state.

I am, gentlemen, your obedient servant,

HY. CLEMES, Mining Engineer.

'A MINER,' the author of letters on the St. Blazey and Liskeard Mining Districts, &c., recently appearing in this Journal, is now VISITING the Mold, Shropshire, Aberystwith, and Goginan districts, after which he purposes MAKING A TOUR OF INSPECTION THROUGH WEST DEVON AND CORNWALL, commencing early in the coming week, and OFFERS his SERVICES TO INSPECT AND REPORT ON THE MINES of the various districts, and to generally advise on all matters connected with Mining. Fee for inspection and report, ten guineas; letters of advice, three guineas. Instructions to report to be in duplicate to himself and the agent in charge, with a reference to their Bankers, and an engagement not to publish such reports save in the name of 'A Miner,' unless specially stipulated for.

Instructions for the Welsh districts may be addressed, 'A Miner,' MINING JOURNAL Office, 26, Fleet-street, and will be at once forwarded.

For Devon and Cornish inspections, address—'A Miner,' care of Royal Hotel, Plymouth; Northway's Hotel, Tavistock; Harvey's Hotel, Gunnislake; Golden's Hotel, Callington; Webb's Hotel, Liskeard; Pack Horse Hotel, St. Blazey; R. Symons, Esq., Mineral Surveyor, Truro; Tabb's Hotel, Redruth; the principal Hotel at Camborne, Gwennap, Goldsithney, and Penzance. On arrival at the latter places will enquire at their respective Post Offices, which they consider the principal Hotel.

Also communications addressed to Capt. S. BENNETTS, of St. Agnes, would be attended to.

CAPTAIN ABSALOM FRANCIS, M.E., GOGINAN, ABERYSTWITHE.

CORNWALL.

VERY VALUABLE TIN MINE, WITH MACHINERY.

JOHN THOMAS has received instructions to SELL, AT PUBLIC AUCTION, at the Auction Mart, in the City of London, on Wednesday, the 29th day of June, 1881, at Twelve o'clock noon, as a going concern, the VERY VALUABLE TIN MINE, known as

THE PENBERTHY CROFTS MINE.

Situate in the parish of St. Hilary, in the county of Cornwall, comprising the Vendors' Interest in the Lease under which the mine is being worked, including a stream of water of ample power to drive 100 heads of stamps; together with the MACHINERY, consisting of PUMPING and WINDING ENGINES, with BOILER; 21 heads of stamps (driven by water-power); all the necessary pit-work, and other requisite appliances for a tin mine.

The sett, which is a mile and a quarter long and a mile wide, comprises several tin lodes, and there is a perpendicular shaft sunk to a considerable depth, from which the various lodes could (by aid of boring machinery) be very rapidly developed. The dues are 1-25th.

Further particulars and reports may be seen on application to Captain JOHN CURTIS, on the Mine (post town Marazion); or the Auctioneer, Redruth, Cornwall.—Dated June 14, 1881.

IN LIQUIDATION.

BETTS-Y-COED LEAD MINING ASSOCIATION (LIMITED),

NORTH WALES.

IMPORTANT SALE OF VALUABLE MINING PROPERTY & MACHINERY.

MESSRS. EDWIN WOTTON AND CO. WILL SELL, BY AUCTION (as a going concern), at the George and Railway Hotel, Bristol, on Thursday, June 30th, at Three o'clock in the afternoon (subject to conditions of sale which will be then produced and read),

THE LEGAL INTEREST IN THE LEASE.

Together with the MACHINERY and EFFECTS of the Betts-y-Coed Lead Mining Association (Limited), now in Liquidation.

The mine, which is a very valuable one, is situate in the township of Gwydyr, in the county of Carnarvon, North Wales, about 2½ miles from the Betts-y-Coed Railway Station, and the same distance from the Llanrwst Station on the London and North-Western Railway. It is held under a 21 years' lease from June 24th, 1877; royalty, 1-12th; minimum rent, £100 a year to merge into dues. The sett is very large, extending over 900 fms. on the course of the lode, and has been very favourably reported on by John Kendall, Esq., Mining Engineer, London; Walter Eddy, Esq., Mineral Surveyor, Fron, Llangollen; Jas. Richards, Esq., and Capt. Henry Rhodda, of the Devon Great Consols Mines; Capt. Wm. Littlejohns, of the Deep Level Mines, Holywell; and Capt. Wm. Benets, of the Coed Mawr Pool Lead Mine, Carnarvonshire; and copies of their reports may be obtained of the auctioneer.

An inventory of the machinery and all particulars may be obtained on application to Capt. WHITFORD, on the premises; to the Auctioneers, Taunton, or 4, All Saints-lane, Exchange, Bristol; or to C. J. SIMS, Esq., 2, Drapers' Gardens, Throgmorton-street, London; Messrs. REED and COOK, Solicitors, Bridgwater; or JOHN GURNEY, Esq., Solicitor, 13, Union-court, Old Broad-street, London, E.C. Dated 7th June, 1881.

ELLSMORE COLLIERY, FOREST OF DEAN.

ON SALE, BY PRIVATE TREATY, and under exceptional circumstances, a COAL FIELD, lying in the south-west part of the FOREST OF DEAN, very near to Sydney Port and Station.

It is under the Shuteastle Inclosure, between Bream and Drybrook Bottom.

The SEAMS are the lower ones—viz., THE COLEFORD HIGH BELF, about 90 yards deep.

THE UPPER TRENCARD, about 85 to 100 yards deep.

THE LOWER TRENCARD, about 115 yards deep.

Area of the Coleford High Belf Seam about 55 acres, and of the latter Seams upwards of 80 acres respectively.

The coal is well adapted for steam or household purposes, and it is free from sulphur.

The Severn and Wye Railway runs through the property, and only requires a siding to where the pit is to be sunk.

The present payment to the Crown is only £5 per annum.

Tenders to be sent to the Undersigned on or before the 30th inst.; the lowest or any tender not being necessarily accepted.

MENZIES AND SON, Colliery Valuers, &c.,

53, North John street, Liverpool.

CARESFIELD COLLIERY AND ESTATE, comprising 1900 acres, more or less, of FREEHOLD COAL; 500 acres, more or less, of FREEHOLD FIRE-CLAY; 50 acres, more or less, of LEASEHOLD FIRE-CLAY; and 530 acres, more or less, of LAND, and the MINES OF COAL under the estate of Ravensdale, containing 255 acres, more or less, all situate in the parish of Ryton, in the county of Durham, will be

OFFERED FOR SALE, BY PUBLIC AUCTION,

At Newcastle-upon-Tyne, on or about the FIRST WEEK IN AUGUST, 1881.

Further particulars and information will be given in future advertisements, and can be obtained from Messrs. J. and F. ANDERSON, W.S., 45, Castle-street, Edinburgh; Messrs. J. and G. H. GEDDES, Mining Engineers, Edinburgh; Messrs. T. and R. ARMSTRONG, Land Agents, 14, Hertford-terrace, Newcastle-upon-Tyne; Wm. GREEN, Esq., Mining Engineer, Thornely House, Blaydon-on-Tyne; or Messrs. CLAYTON and GIBSON, Solicitors, Guildhall, Newcastle-upon-Tyne.

EXCELLENT FREEHOLD DWELLING-HOUSES, AN ESTABLISHED IRON FOUNDRY, AND CAPACIOUS STORE ROOMS, YARDS, PLANT, and STOCK-IN-TRADE, close by the Luncheon Railway Station, Cornwall, for IMMEDIATE SALE BY PRIVATE TREATY.

The Northumberland Foundry at St. Thomas, Launceston, has been in active operation for more than 50 years.

The proprietor, being now obliged to retire on account of failing health, offers the whole of the property as a going concern. It is open to the minutest inspection of intending purchasers.

The BUILDINGS and LAND are of FREEHOLD TENURE, and must be taken at £2500, the price which has been set upon them by a competent local land surveyor. They consist of a four-story 66 ft. 8 in. in length, and 33 ft. 4 in. in breadth; smith's shop 69 ft. by 19 ft. 3 in.; adjoining office 11 ft. by 7 ft. 7 in. large carriage-house and loft over; a two-stalled stable and loft, with shed at the back; extensive and superior store rooms, show room, pattern room, and office, with every other business convenience.

Two newly-built and well lighted dwelling houses, with gardens, stocked, and drawing rooms, five bedrooms, china and other closets, pantry, washhouse, fuel house, and other modern appliances, and an abundant water-supply.

The adjoining house, occupied by a respectable tenant, contains kitchen, pantry, washhouse, dining and drawing rooms, three bedrooms, &c. The plant and stock-in-trade are to be purchased at a valuation, and comprise a steam-engine (the boiler of which is fed by an unceasing spring of water on the premises), a lathe, crane, webbridges, forges, beams and scales, racks, &c., a moderate stock of grates, stoves, and other manufactured articles, with iron, sand, and general trade materials.

The buildings are strongly constructed, and are in excellent repair. The walls are of good stone, and the roofs are slated.

The situation of the property cannot be surpassed. It is at the Launceston terminus of the Great Western Railway, in the centre of a rich agricultural district, in the mining county of Cornwall, and it has been admirably adapted by its present proprietor to business purposes and a comfortable home.

Applications to treat for the purchase should be made within the present month, or before the 23rd July next, to Mr. Wm. Langdon, the proprietor; or to Messrs. PETER AND SON, Solicitors, Launceston.

Dated 13th June, 1881.

ON SALE, COMPRESSING, PUMPING, OR WINDING ENGINES.—SECONDHAND PAIR of 25 in. HORIZONTAL ENGINES; SECONDHAND PAIR DITTO, 43 in. diameter, sold together or separate.

EDWARD RATCLIFFE, HAWARDEN.

ON SALE, SECONDHAND WINDING ENGINES IN PAIRS; cylinders from 10 to 26 inches diameter.

EDWARD RATCLIFFE, HAWARDEN.

ON SALE, THREE GALLOWAY BOILERS, 30 ft. by 7 ft., with all recent improvements. FIFTY other BOILERS, various sizes, ready for delivery. Price List on application.

EDWARD RATCLIFFE, HAWARDEN, NEAR CHESTER.

SPARE MACHINERY AND MATERIALS FOR SALE, BY PRIVATE CONTRACT, at GOOLE PELLAS MINES, St. Ives, Cornwall.

ONE 40 in. PUMPING ENGINE, new cylinder, spring ring, &c., with or without BOILERS.

ONE 30 in. STAMPING ENGINE, wrought-iron shaft, TWO FLY-WHEELS.

ONE 24 in. WINDING ENGINE, complete; and a 22 in. ditto.

STURDY BOILERS, in first-class condition, from 11 tons down to 7 tons.

Large balance and angle bolts, nearly new; new and lofty shaft tackles; dry tubes; 200 fms. of 3½ mild steel wire rope—new from maker, never used; a large quantity of pitwork, from 10 in. down to 6 in.; new plunger poles, from 10 in. down to 7 in.; strapping plates, various sizes; a large quantity 2 ft. shieves; and other materials in general use in mines.

For particulars and prices, apply to Capt. BUGELHOLE, West Providence Mines, St. Ives, Cornwall.—Dated May 2, 1881.

FOR SALE, BY PRIVATE TREATY, the MERSEY COPPER WORKS, WIDNES, LANCASHIRE.

These Works are well situate on the London and North-Western Railway, and are in complete working order.

All further information can be obtained from Messrs. CHALMERS and WADE, Chartered Accountants, 5, Fenwick-street, Liverpool.

ENGINES, &c., FOR SALE:—ONE 40 in. cylinder PUMPING ENGINE, 9 ft. stroke.

ONE 36 in. cylinder STAMPING ENGINE, two fly wheels, and three stamps.

ONE 24 in. WINDING ENGINE, 8 ft. stroke.

ONE 16 in. horizontal STAMPING ENGINE, and eight heads of stamps.

The whole with or without BOILERS.

Apply to—Messrs. JOHN HOCKING and SON, REDRUTH.

THE REICHSGESCHIEB SILVER MINE, in JOACHIMSTHAL (128 Kuxe), in full work, together with

STAMP MILL and WATER POWER, IS TO BE SOLD VERY CHEAP.

Address—

S. NEUBAUER, KARLSBAD (BOHEMIA).

SPAIN.—TO OWNERS OF CONCESSIONS.—PARTIES holding MINING GRANTS are invited to SEND PARTICULARS, with a view to NEGOTIATIONS.

Address, "Spanish Syndicate," MINING JOURNAL Office, 26, Fleet-street, London.

SILVER-LEAD MINE.

FOR SALE, a VALUABLE PROPERTY, newly discovered, located twelve English miles from sea harbour, suitable for either public or private enterprise.

For particulars, address E. O. HALVORSEN, Risør, Norway.

VALUABLE MINES OF TIN AND SILVER-LEAD IN CORNWALL.

THE ADVERTISER has POSSESSION of VERY VALUABLE TIN AND SILVER-LEAD MINES, that have never yet been offered to the public. This is a good opportunity for capitalists who wish to secure a genuine, safe, and profitable investment. Correspondence is solicited.

Any letters addressed to "Engineer," MINING JOURNAL Office, 26, Fleet-street, London, E.C., will receive prompt and careful attention.

FOR SALE, a 30 H.P. PORTABLE STEAM ENGINE; with link-motion reversing gear, has drum and gearing complete for winding and pumping.

A 14 H.P. PORTABLE WINDING and PUMPING ENGINE.

Also a 6 H.P. PORTABLE HOISTING ENGINE.

Apply to—

BARROWS and STEWART, ENGINEERS, BANBURY.

GLASGOW AND THE HIGHLANDS.

ROYAL ROUTE VIA CRINAN AND CALEDONIAN CANALS by Royal Mail Steamer, COLUMBA or IONA, from GLASGOW daily at 7 A.M., and from GREENOCK at 9 A.M., conveying PASSENGERS for OBAN, NORTH and WEST HIGHLANDS.

Official Guide Book, 2d.; Illustrated Copies, 6d. and 1s., by post, or at Euston, St. Pancras, King's Cross Railway Bookstalls, London.

Bill, with Map and Tourist Fares, free by post, from the Owner, Mr. DAVID MACBRAYNE, 119, Hope-street, Glasgow.

WORKS ON APPLIED SCIENCE:

Mining, Mechanics, Engineering, and other Scientific Periodicals.

Revised Catalogue, now ready, post free, Twopence.

London: TRUBNER and Co., Ludgate Hill.

COLONIAL BANK.—(Incorporated by Royal Charter, 1836).

Subscribed capital £2,000,000
Paid-up capital 600,000
Reserve Fund 100,000

The Court of Directors of the Colonial Bank hereby give notice that, in pursuance of the provisions of the charter, a HALF-YEARLY GENERAL MEETING of Proprietors will be HELD at the Bank House, No. 13, Bishopsgate-street, Within, E.C., on THURSDAY, the 7th of July, 1881, at Two o'clock precisely, to receive the report of the proceedings of the Corporation.

The Transfer Books of the Corporation will be closed on the 20th June, 1881, and re-opened on the 6th July, 1881.

By order of the Court of Directors,

JAMES CLARK, Secretary.

RICHMOND CONSOLIDATED MINING COMPANY (LIMITED).

Capital, £270,000, in 54,000 shares of £5 each.

TWENTY-EIGHTH DIVIDEND.

AMOUNT OF DIVIDENDS ALREADY PAID £592,517 10s.

Notice is hereby given, that the directors of the above company have THIS DAY DECLARED an ADDITIONAL DIVIDEND OF ONE POUND PER SHARE (free of income-tax) PAYABLE on and after TUESDAY, the 28th June inst., at the company's bankers, the Union Bank of London, Princes-street, E.C.

And notice is hereby further given, that the Transfer Books will be closed from 25th to 28th June, both days inclusive.

By order of the Board,

HUBERT AKERS, Secretary.

Offices, 44, Coleman-street, London, E.C., 21st June, 1881.

THE LONDON AND JAGERSFONTEIN DIAMOND MINING COMPANY (LIMITED).

Notice is hereby given, that the FIRST ORDINARY GENERAL MEETING of the above-named company will be HELD at the Registered Office of the company, No. 31, Hatton Garden, in the City of London, on FRIDAY, the 1st day of July, 1881, at Twelve o'clock at noon, for the following purposes:

To receive and consider the report of the directors, and to transact the ordinary business of the company.

Notice is also given, that the Transfer Books of the Company will be closed from the 23rd June to the 1st July, both inclusive.

By order,

J. O. STATHAM, Secretary.

31, Hatton Garden, June 22, 1881.

DECLARATION OF THE TWENTY-SECOND CONSECUTIVE MONTHLY DIVIDEND.

LA PLATA MINING AND SMELTING COMPANY.

BY CABLEGRAM. Notice is hereby given, that the Board of Directors have THIS DAY DECLARED a DIVIDEND OF SEVEN AND A HALF CENTS PER SHARE, equal to 9 per cent. per annum, amounting to \$15,000, out of the profits for the month of May, PAYABLE on the 1st of July, leaving at credit of Reserve Fund \$56,066 11 cents.

F. ANDREWS, London Registrar.

21, Great Winchester-street, E.C., London, June 18, 1881.

MINE "EL CUCALAO," GUAYANA, VENEZUELA.

COUPONS OF SHARES..... 322

Gold in bars produced

NOBEL'S DYNAMITE



Manufactured and sold by

NOBEL'S EXPLOSIVES COMPANY (LIMITED), 149, West George Street, Glasgow.

AGENTS EXPORT: J and G. THORNE, 85, GRACECHURCH STREET, LONDON, E.C.

FACTORIES--ARDEER WORKS, STEVENSTON, Ayrshire.

WESTQUARTER WORKS, POLMONT STATION, STIRLINGSHIRE.

THE COTTON POWDER COMPANY (LIMITED)

RECOMMEND TO CONTRACTORS, MINERS, PIT SINKERS, QUARRYMEN, AND OTHERS, THEIR

TONITE, OR COTTON POWDER,

AS BEING THE SAFEST, CHEAPEST, AND STRONGEST OF ALL EXPLOSIVES.

TONITE is the most efficient and economical blasting agent ever invented, and is largely in demand. It does not contain any Nitro-glycerine, and is, therefore, exempt from the dangers of exudation, or of freezing and its attendant process of thawing.

The Company also manufacture PATENT DETONATORS of a quality much superior to the foreign article. The trade supplied on favourable terms.

23, QUEEN ANNE'S GATE, LONDON, S.W.

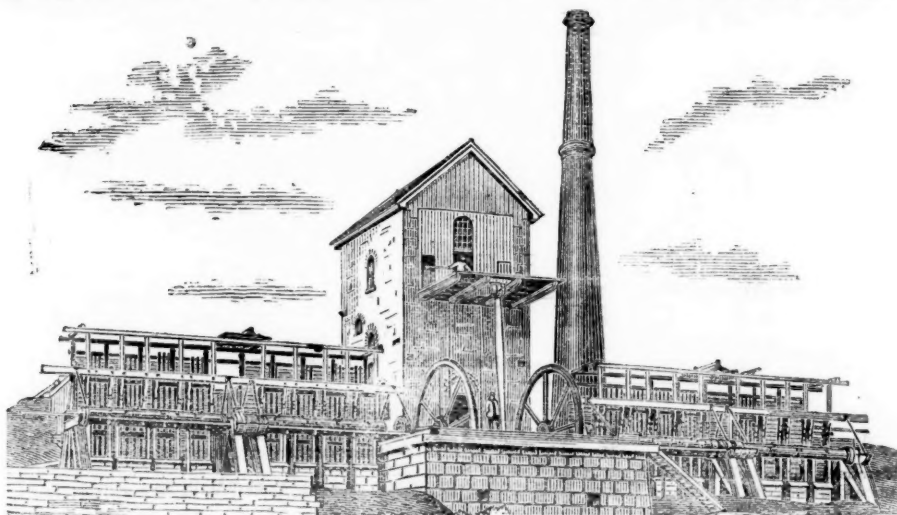
WORKS: FAVERSHAM, KENT.

Agents DINEEN, SON, and Co., Leeds; DAVID BURNS, Haltwhistle; R. J. CUNNACK, Helston, Cornwall; J. and W. SMITH, Chapel-en-le-Frith; W. VEITCH, Jedburgh, N.B.; W. HARRISON, Barrow-in-Furness.

THE TUCKINGMILL FOUNDRY COMPANY,

(TUCKINGMILL FOUNDRY AND ROSEWORTHY HAMMER MILLS),
CAMBORNE, CORNWALL,

Engineers, Iron and Brass Founders, &c.



REGISTERED TRADE MARK.

MANUFACTURERS OF EVERY DESCRIPTION OF

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PUMPING, WINDING, AND STAMPING ENGINES

ALL KINDS OF

MINING MACHINERY, SHOVELS, AND MINER'S TOOLS;

ALSO OF

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NEAR VICTORIA STATION, MANCHESTER.

(ESTABLISHED 1790).

JOHN STANIAR AND CO.,

Manufacturers by STEAM POWER of all kinds of Wire Web, EXTRA TREBLE STRONG for

LEAD AND COPPER MINES.

Jigger Bottoms and Cylinder Covers woven ANY WIDTH, in Iron, Steel, Brass, or Copper

EXTRA STRONG & PERFORATED ZINC AND COPPER RIDDLES AND SIEVES

Shipping Orders Executed with the Greatest Dispatch



For Excellence
and Practical Success
of Engines.



Represented by
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HARVEY AND CO.,
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LONDON OFFICE.—186, GRESHAM HOUSE, E.C.

MANUFACTURERS OF

PUMPING and other LAND ENGINES and MARINE STEAM ENGINE of the largest and most approved kinds in use, SUGAR MACHINERY MILLWORK, MINING MACHINERY, and MACHINERY IN GENERAL

SHIPBUILDERS IN WOOD AND IRON

MANUFACTURERS OF

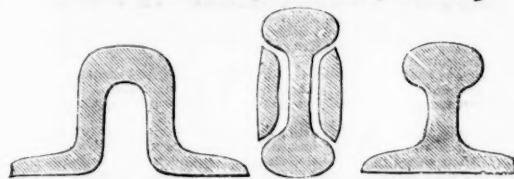
HUSBAND'S PATENT PNEUMATIC STAMPS

SECOND-HAND MINING MACHINERY FOR SALE,

IN GOOD CONDITION, AT MODERATE PRICES—viz

PUMPING ENGINES; WINDING ENGINES; STAMPING ENGINES, STEAM CAPSTANS; ORE CRUSHERS; BOILERS and PITWORK of various sizes and descriptions; and all kinds of MATERIALS required for MINING PURPOSES.

JOHN BEATSON & SON,
40h, St. Mary's Gate, Derby.



IRON AND STEEL RAILS, of all sections, from 10 to 86 lbs per yard, new perfect, new slightly defective, or second-hand, with Fish-pates Bolts and Nuts, Chairs, Spikes, and Points and Crossings to match, when required.

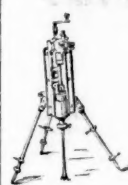
STEEL AND IRON WIRE ROPES, LOCOMOTIVE ENGINES, &c., &c.

STEEL OF ALL KINDS. PLATES, SHEETS, &c.

DELIVERED AT ALL RAILWAY STATIONS AND PORTS IN GREAT BRITAIN

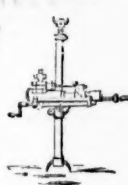
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IMPROVED ROCK DRILL.



This DRILL is GREAT STRENGTH and SIMPLICITY SECOND TO NONE IN THE KINGDOM.

We are prepared to SUPPLY our well known MACHINES at greatly REDUCED PRICES—from £35, according to calibre of cylinder



ESTIMATES GIVEN FOR PLANTS, &c., &c.

Dunn's Patent Rock Drill Company

(LIMITED),

OFFICE,—193, GOSWELL ROAD, LONDON, E.C.

C. H. WALKER AND CO.,
MINING AGENTS AND ENGINEER,
VALPARAISO AND SANTIAGO,
CHILE

MEXICO, NEW MEXICO ARIZONA, UTAH, NEVADA AND CALIFORNIA.

F. M. F. CAZIN,
MINING AND CIVIL ENGINEER,
At BERNALILLO, NEW MEXICO, U.S. OF AMERICA.

Has 24 years' experience in Mining and Smelting, and 10 years experience of American Business and Law, offers his services at moderate charges for Reporting on Mining and other Property in any of the above-named States or Territories gives correct, safe, and responsible advice as to securing full titles and possession and, as to best mode of utilising the property, will assist in settling existing difficulties by compromise, and in disposing of developed mining property when held at real value; offers his assistance for securing undeveloped mining properties at home prices. As to care taken in reporting, reference is made to the *Mining Journal* Supplement, April 1, 1876, containing a report on property of the Maxwell Land Grant and Railway Company; as to technical standing, to the prominent men of the trade—compare *Mining Journal* of Aug. 30 and Nov. 31, 1872, and *New York Engineering and Mining Journal*, Feb. 28, 1874.

TO ENQUIRERS.—Having received numerous letters asking for my gratuitous opinion on mining properties, I beg to state that I cannot afford time to answer letters of that description without the inclosure of a fee—at least of a half-a-guinea. R. SYMONS.

THE MINING RECORD. Only \$3.00 a year. 61, BROADWAY, NEW YORK. Is the ONLY PAPER in the United States that gives FULL LATEST ACCOUNTS from all the GREAT GOLD, SILVER, IRON, and COAL MINES of AMERICA. ORDERS EXECUTED FOR MINING STOCKS. Information free. ALEX. ROBT. CHISHOLM, Proprietor. London Office—H. J. CHAWNER, Manager, 3, Catherine-street, Strand, W.

Second Edition. Just Published, price 8s. 6d.

A NEW GUIDE TO THE IRON TRADE OR MILL MANAGERS' AND STOCK-TAKERS' ASSISTANT; Comprising a Series of New and Comprehensive Tables, practically arranged to show at one view the Weight of Iron required to produce Boiler-plates, Sheet-iron and Flat, Square, and Round Bars, as well as Hoop or Strip Iron of any dimensions. To which is added a variety of Tables for the convenience of merchants, including a Russian Table. By JAMES ROSE. Bateman's Hill Ironworks, Bradley, near Bilston.

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"The Tables are plainly laid down, and the information desired can be instantaneously obtained."—*Mining Journal*. "900 copies have been ordered in Wigan alone, and this is but a tithe of those whom the book should commend itself."—*Wigan Examiner*. "The Work is replete on the subject of underground management."—M. BANEK Colliery Proprietor. To be had on application at the MINING JOURNAL Office, 26, Fleet-street, London.

Just published.

THE NORTH WALES COAL FIELD Being a series of Diagrams showing the Depth, Thickness, and Local Names of the Seams in the principal Collieries of the various districts, with Index, Geological Map, and horizontal sections across the Ruabon, Brymbo, Buckley, and Mostyn districts. By JOHN BATES GREGORY and JESSE PRICE, of Hope Station, near Mold, Flintshire.

Price: Mounted on holland, coloured and varnished, and fixed on mahogany rollers, 30s. each; or in book form, 12x9, mounted and coloured, 25s. each. May be obtained, by order, of all Booksellers or direct from the MINING JOURNAL Office, 26, Fleet-street, London, E.C., upon remittance of Post Office Order for the amount.

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THE COLLIERY READY-RECKONER AND WAGES CALCULATOR.

By JAMES IRELAND

"Will be the means of preventing many disputes between pay clerks and colliers."—*Mining Journal*. To be had on application at the MINING JOURNAL Office, 26, Fleet-street, E.C.

165,000 Shares will be allotted to the Vendors in part part payment for the Estate and Mines, and 125,000 Shares have already been applied for, and will be allotted in full at par.

The Chile Gold Mining Company, Limited.

CAPITAL, £500,000, IN SHARES OF £1 EACH.

Payable:—2s. 6d. on application, 7s. 6d. on allotment, and 10s. on 1st August, 1881.

HONORARY DIRECTOR.

His Excellency Senor J. M. DE ROJAS, Venezuelan Minister, Plenipotentiary to the Court of St. James.

DIRECTORS.

ALEXANDER GRANT DALLAS, Esq., Deputy-Chairman of the Rio Tinto Company (Limited)—CHAIRMAN.

ERNEST NOEL, Esq., M.P., 29A, Grosvenor Square, S.W., and Lyndhurst, Sussex.

WILLIAM MACANDREW, Esq., Chairman of the London Bank of Mexico and South America (Limited).

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Sir CHARLES CLIFFORD, Deputy-Chairman of the British and Australasian Trust and Loan Company (Limited).

EDMUND A. PONTIFEX, Esq., Chairman of the Cape Copper Mining Company (Limited).

BANKERS—THE NATIONAL BANK OF SCOTLAND, 37, Nicholas Lane, Lombard Street, London, E.C.

SOLICITORS—Messrs. CAMPBELL, REEVES, and HOOPER, 17, Warwick Street, London, W.

BROKERS—London: Messrs. PANMURE, GORDON, and Co., Hatton Court, Threadneedle Street, E.C.

Manchester: R. A. ARMITAGE, Esq., 10, St. Ann's Square.

AUDITORS—Messrs. PRICE, WATERHOUSE and Co., 44, Gresham Street, London, E.C.

Edinburgh: Messrs. LAWRIE and KER, 4, St. Andrew's Square.

Liverpool: GEORGE CHAMBERLAIN, Esq., 34, Knowles Buildings.

Glasgow: Messrs. AULD and GUILD, 65, St. Vincent Street.

SECRETARY (pro tem.) and OFFICES—FITZ GERALD ARBUTHNOT, Esq., 9, WALBROOK, LONDON, E.C.

PROSPECTUS.

This company has been formed for the purpose of acquiring and further developing the well-known Mocopie Estate and Chile Gold Mine, situated in the State of Guayana, Venezuela, and held under grants from the Government for a term of 50 years (of which about 44 years are still unexpired), renewable for a further period of 50 years.

The property comprises an area of about 650 acres, and contains the greater portion, so far as developed, of the noted Chile Gold Lode. The surface is covered principally with wood, which is available for mining purposes, and for fuel.

Several auriferous quartz veins runs through the estate, but the proved extent and richness of the Chile lode has hitherto induced the proprietors to confine their attention solely to its development. The directors of this company also propose to limit the operations to this vein, and, at a later period, to sell or lease the remaining gold lodes comprised in the property.

THE CHILE GOLD MINE.

The lode on which this mine is situated passes through and underlies nearly the whole of the company's property. Its extent and richness have been proved for upwards of a mile in length, the amount of gold-bearing quartz ascertained being practically inexhaustible.

Commencing at the western boundary, the vein has been traced on the surface for a distance of 1900 ft. to the engine-shaft. This shaft has been sunk to a depth of 230 ft.; the lode has varied from 3 to 6 ft. in width, and yields in the bottom from 1½ to 3 ozs. of melted gold to the ton of 2000 lbs.

The Old Shaft, 950 ft. east of the engine-shaft, has been sunk to a depth of 320 ft., through a continuously productive lode, and is now in quartz 5 to 6 ft. wide, yielding from 2 to 3 ozs. of melted gold per ton.

The New Shaft, 183 ft. east of the latter, has reached a depth of 388 ft., and is now in quartz from 3 to 4 ft. thick, yielding from 3 to 4 ozs. of melted gold per ton.

From the New Shaft to the eastern boundary, a distance of 3850 ft., the outcrop of the lode has been extensively worked by the ancients, which is a sure indication of its richness.

The superintendent of the mine, writing on the 6th February last, states that the lode is changing in character in the bottom of the mine; the quartz is becoming richer in gold and more charged with sulphurets; and on assaying several samples, he was surprised to find that they gave results varying from 8 to 16 ozs. of gold to the ton.

For upwards of 10 years the operations have been confined principally to exploring and proving the Chile lode, and the reduction works have been limited to the number of stamps requisite for treating the ore derived from sinking the shafts, &c. The following official return of gold from the company's Mocopie mill demonstrates how regularly the vein has increased in richness as depth has been obtained:—

Years.	No. of hours run.	Average No. of stamps.	Tons quartz crushed.	Ozs. melted gold.	Ozs. per ton of basis of quartz.	Fineness of gold on basis of 1000ths.
1871	909	12	994	747½	75	750
1872	2717	12	2377	1,550½	65	800
1873	3118	12	2394	2,164	90	875
1874	2363	10	1092	1,942½	178	880
1875	4323	10	2629	3,055½	116	850
1876	5685	10	2812	4,061½	144	860
1877	5828	10	2884	4,653	162	895
1878	5126	10	2768	7,448	269	905
1879	7113	12	4462	11,942½	268	908
1880	7362½	20	6762	14,525½	215	912

The above quantity has been extracted from what is termed the native or free

gold in the quartz. The gold contained in combination with the sulphurets is reserved in the tailings for future treatment when proper appliance have been erected.

The following extracts are taken from the report of Mr. George Attwood, A.M. Inst. C.E., F.G.S., &c., late manager of the adjoining Potosi Mine:—

"During the past 10 years about £300,000 have been expended in acquiring and developing the Chile property and demonstrating its value. The above table of actual results proves how regularly the vein has improved in richness as depth increases, and Mr. March, who has managed the mine for seven years, estimates the future yield of gold at from 2½ to 3½ ozs. to the ton of quartz.

"I fully share Mr. March's views in this respect, and his opinion is further confirmed by the results obtained from the small portion of the Chile vein worked by the Potosi Company, between the old and the engine shafts of your mine. Mr. Provis, engineer to that company, states in his report, dated the 2nd of October, 1880, that the quartz from the Chile vein had produced on an average during the preceding 12 months 3 ozs. of gold per ton, and was still improving, the last month's return having reached 3½ ozs. per ton.

"Moreover, the section of the Chile vein, worked by the Potosi Company, here referred to, and from which they extracted 52,338 ozs. of gold, value £200,676, during the 3½ years ending September, 1880, dips wholly into your property. (See accompanying section B.)

"In preparing an estimate of probable returns from your mine when worked on a large scale, for which the explorations carried on during the past ten years afford such reliable data, I prefer, in order to ensure being on the safe side, to adopt the low yield of 2½ ozs. of gold per ton of quartz treated.

"The mill should be immediately increased by the erection of 70 additional stamps, with engine, boilers, and amalgamating machinery, &c., all of which could be erected at a cost of £27,000, and in less than 12 months. You would then have an effective mill of 100 stamps working on Chile ore, which would crush 1½ ton (of 2000 lbs.) per stamp in 24 hours' work, making a total of 150 tons of ore crushed per day.

"With proper organisation, I estimate that the mill would run at least 23 days in the month. In California and Nevada crushing-mills run 28 out of 30 days. The quantity of gold ore crushed, according to the above estimate, would be 3450 tons during one month. Estimating the yield at only 2½ ozs. of gold per ton, of 912 fineness, the Mint value of £3 17s. 5d. per oz., say market value £3 17s. per oz., the return per month would be 8625 ozs. of melted gold of the value of £33,206.

"Taking the total expenditure at the mines and in London at five times the amount of the greatest cost ever incurred when running 20 stamps (700 ozs. per month), the total monthly expenditure would amount to 3500 ozs., leaving a profit balance of 5125 ozs. melted gold, or £19,731 per month, equal to a profit of £236,772 per annum.

"Judging by the actual profit realised from 20 stamps during the year 1880, allowing for the 10 stamps since erected, I estimate the profits from the existing mill for the 12 months commencing July 1 next at £35,370 And from 30 of the additional stamps it is proposed to erect, working for six months, from 1st January to 30th June, 1882, 17,665

"Total net profit for first year from the 1st July next £53,035

or upwards of 10 per cent. on the capital of the company.

"By the 1st July, 1882, I estimate that the proposed additional machinery will have been erected and brought into full operation, from which period a profit of at least £200,000 per annum should be realised.

"My opinion as to the richness of the Chile gold vein is founded upon three

years of actual experience of the lode, during a portion of which time I managed the adjoining Potosi Mine. I last visited the Chile Mine in December, 1880, but have received extracts from the Superintendent's advices up to February 7, from which I learn that the lode in the shafts has altered considerably in character, the sulphurets have increased in quantity, necessitating some additions to the amalgamation works to deal effectively with the same and save the gold. Meanwhile, several assays have been made of the ore taken from the deepest workings, giving from 8 to 16 ozs of gold per ton."

"The Chile Gold lode, for over one and one-third miles in length, passes through and nearly underlies the whole of your estate, and in some places it outcrops or comes to the surface on the same; but all the deep and rich portion of the vein is in your property, as will be seen by reference to the accompanying plan and sections."

"I have no hesitation in highly recommending this grand property as a safe investment for capital. I consider it the most extensive and the richest gold mine at present known in Venezuela, and one of the richest proved gold mines in the world; the amount of gold actually discovered on the Chile vein being practically inexhaustible. The 70 additional stamps, with engine, &c., can be erected and brought into operation within one year, when I consider your property will be worth fully one million sterling."

"In conclusion, I may state that the 'Chile' is one of the richest and best defined gold veins I have ever had the opportunity of examining during 18 years of foreign mining experience, including eight years on the great Comstock Lode of Nevada, during which period the mines under my management yielded dividends to the proprietors amounting to upwards of two millions sterling.

The Mocopie estate, and the Chile gold mines, with engines, stamp-mill, machinery, plant, buildings, stores, gold ores, &c., &c., have been purchased as a going concern, from the Gold Agency (Limited) for the sum of £125,000, leaving £75,000 for working capital. Of the purchase-money £165,000 will be taken in shares of the company. This sum includes all expenses up to the allotment of shares (except brokerage), and the company will take possession of the property and receive the profits derived from the mines as from the 1st day of July next.

Accompanying this prospectus are reports from Mr. J. M. March, C.E., superintendent of the Chile Mine, and from Mr. George Attwood, C.E., F.G.S., late manager of the adjoining Potosi Mine.

The only agreements entered into are as follows:—

Agreement, the 30th day of May, 1881, between Mocopie and New York Mining Company of the one part, and the Gold Agency (Limited) of the other part; and another, dated the 9th day of June, 1881, between the Gold Agency (Limited), the promoters of this Company, of the one part, and this Company of the other part, which, with the Memorandum and Articles of Association of the Company, and the Reports, may be inspected at the offices of the solicitors.

Samples of the quartz, rich in visible gold, taken from the shafts and other points of operation in the mines, may be inspected at the offices.

Application for shares may be forwarded, together with a deposit of 2s. 6d. per share, to the company bankers, the National Bank of Scotland, 37, Nicholas Lane, Lombard-street, London, E.C.

Where no allotment is made, the deposit will be returned in full.

Prospectuses and Forms of Application may be obtained of the company's brokers; of the bankers; or at the offices, 9, Walbrook, London, E.C.

The SHARE LIST is now OPEN and will CLOSE on SATURDAY, the 2nd July, for TOWN, and MONDAY, the 4th, for COUNTRY APPLICATIONS. Upwards of 6000 Shares are already placed among the Directors and their friends.

The Birchington Bay Freehold Land and Estate Company (LIMITED).

ISLE OF THANET, COUNTY OF KENT.

INCORPORATED UNDER THE COMPANIES ACTS 1862 TO 1880, WHEREBY THE LIABILITY OF THE SHAREHOLDERS IS LIMITED TO THE AMOUNT OF THEIR SHARES.

CAPITAL £150,000 IN 30,000 SHARES OF £5 EACH.

(WITH POWER TO INCREASE.)

Payable 10s. on Application, £1 on Allotment. It is not expected that more than £2 10s. per Share will be called up.

DIRECTORS.

W. A. BARRON, Esq., A.M., Inst. C.E., F.G.S., Althorpe House, Richmond.

BOYDELL GRAVES Esq., Karlsruhe, Albermarle Road, Beckenham, Kent.

Colonel G. B. MALLESON, C.S.I., 27, West Cromwell Road, W.

Sir E. H. MEREDYTH, Bart., J.P., Warnbrook, Chard, Somerset.

J. WARRINGTON MORRIS, Esq., Architect, Gracechurch Buildings, E.C.

Mr. Alderman RANCE, Solicitor (ex-Mayor), Cambridge.

BANKERS—Messrs. BARNETTS, HOARES, HANBURY, and LLOYD, 60, Lombard Street, E.C.

Messrs. COBB and CO., Margate.

BROKERS—Messrs. BLYTH and HUTCHINSON, 79, Cornhill, E.C., and Stock Exchange.

CONSULTING ENGINEERS—Messrs. KINIPPLE and MORRIS, 2, Westminster Chambers, S.W.

SOLICITORS—Messrs. SAUNDERS, HAWKSFORD, and BENNETT, 27, King Street, Cheapside, E.C.

AUDITORS—Messrs. J. LORD, McDONALD and CO., Chartered Accountants, 35, Queen Victoria Street, E.C.

SECRETARY—JOHN C. BOWSER, Esq.

OFFICES—ALBERT BUILDINGS, 51, QUEEN VICTORIA STREET, E.C.

PROSPECTUS.

In fixing the capital of this company, have provided for a sum from which, with judicious temporary advances, with ample margin, can be made on mortgage of the buildings during construction, and thus secure the rapid development of the estate. The company being the freeholders, this investment will be fully secured, and prove very remunerative, the more especially as it will probably be turned over several times before the whole of the property is covered with buildings.

The directors do not propose to call up more than £2 10s. per share, but as soon as the capital now offered for subscription is taken up, an issue of debentures, not exceeding £100,000 in all, bearing a fixed rate of interest, will be made for the above purpose. These debentures will form a first charge upon the company's assets, including the unallocated capital as well as the loans to builders.

The issue of debentures in lieu of calling up all the capital is so well understood by investors in landed estates that it needs no explanation, the effect being to enhance very considerably the value of the shares, as a great part of the debentures will be paid off out of the profits of the company.

The salubrity of the air in this locality is well recognised by the medical profession. Birchington Bay possesses in an eminent degree every requisite, rendering it one of the most attractive, healthful, and accessible seaside resorts on the Kentish coast. The property is bounded on its eastern frontage by a picturesque range of white sea cliffs, and in the centre there is a gentle decline, affording easy access to a splendid beach, noted for its fine stretch of firm, clean sand, admirably adapted for sea bathing. The subsoil is chalk, and the roads dry very quickly after rain. The village of Birchington, with its grand old church, the adjacent headlands of the Reculvers, and the surrounding country, afford every inducement for interesting and healthful walks and drives.

The value of land in this district has greatly increased of late years. At Margate there is little room for additional building operations, and the development of its neighbour, Westgate-on-Sea, has of late been remarkably rapid. The Birchington Bay Estate, possessing as it does the above advantages, as well as established railway communication, and being planned on a very liberal scale as to width of roads and extent of open spaces, and with full consideration for modern sanitary requirements, will be quickly taken up for building purposes, and command good ground rents.

This property has been carefully laid out by experienced surveyors and engineers, according to the lithograph accompanying the prospectus, from which it will be observed that there will be a broad sea wall and promenade, with enclosed

green and fine roadway, averaging 170 ft. along the entire sea frontage. The lateral roads will be 50 ft. wide, and completed by the company in a very efficient manner, and planted with trees, and so arranged that almost every house will have a view of the sea; suitable spaces are reserved for squares and recreation grounds, church, chapel, and market hall. The gasworks at Birchington, and the water-works at Westgate, are available for the supply of this estate.

The surveyors' reports show that after the necessary outlay, estimated at £40,000, in roads, drainage, sea-wall, &c., according to the plan determined upon there will be upwards of 20,000 ft. of building frontages, exclusive of reserved sites; and, after allowing a liberal margin on the actual ground rents now current at Margate and Westgate, these frontages will produce a net ground rent of £9000 per annum, and this, capitalised at 22 years' purchase, gives £198,000, as the value of the estate when covered, which will either give a permanent dividend of 15 per cent., or a bonus on realisation of over 100 per cent., after paying at least 6 per cent. per annum from the first.

The price agreed for the purchase of the estate, which comprises 83 acres, is £39,500. The vendor promotes the company, and will pay the cost and charges incidental to the formation thereof up to allotment, including advertising and printing, surveyors' fees, and the legal expenses of conveying the property to the company. The only charge which will fall on the company will be the payment of the brokerage on shares.

The only contract entered into is dated the 9th day of June, 1881, made between Joseph Robertson of the one part, and John C. Bowser, as trustee on behalf of the company, of the other part, and a copy of the same, together with the Memorandum and Articles of Association, and also the engineers' and surveyors' reports and valuations, can be seen at the offices of the company, and at the solicitors, where every further information can be obtained.

Application for shares must be made in the usual form, and be accompanied by the payment of 10s. per share to the bankers of the company; or addressed to the secretary, enclosing crossed cheque for the amount applied for.

It is the intention of the directors to apply for a quotation on the Stock Exchange.

The directors, in recommending the company to investors, desire to state that it is their intention to adopt the plan of laying out the estate recommended by the engineers and surveyors, with any modifications that may be considered desirable in the interests of the company.